The Mining Journal
RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 648.---Vol. XVIII. LONDON, SATURDAY, JANUARY 22, 1848. [Price 6d.

Stannaries of Cornwall—In the Vice-Warden's Court.

HILL *v.* VIGURS,

IN THE MATTER OF THE ROYAL POLBEROU MINES, OTHERWISE THE ST. AGNES CONSOLIDATED MINES.

WHEREAS the VICE-WARDEN did, by an ORDER, or DECREE, made in the above-mentioned cause, and bearing date on the 26th day of August, 1846, Order and Decree that a SALE be made of the ORES and HALVANS, and (if necessary) the ENGINES, MACHINERY, MATERIALS, and EFFECTS upon and belonging to the ROYAL POLBEROU MINES, otherwise the ST. AGNES CONSOLIDATED MINES, in the parish of ST. AGNES, within the said Stannaries, under the direction of the Registrar of the Court, and that the proceeds of such sale should be applied by the said Registrar in the manner directed by the said Order or Decree,

Notice is hereby given, that, pursuant to the said Order and Decree, a PUBLIC AUCTION will be HOLDEN at the ROYAL POLBEROU MINES, otherwise the ST. AGNES CONSOLIDATED MINES aforesaid, on Tuesday, the 15th day of February next, and following days, at Eleven o'clock in the forenoon of each day, for SELLING, either together or in lots, the under-mentioned

MINING MACHINERY AND MATERIALS—viz.:

SIX STEAM-ENGINES—

1 80-inch cylinder PUMPING ENGINE, 9 feet stroke, with three boilers, about 36 tons, the first piece of rod, and iron balance bob.
1 60-inch cylinder PUMPING ENGINE, 8 feet stroke, with three boilers, about 33 tons, two balance-bobs, and the first piece of rod.
1 36-inch cylinder DOUBLE-ACTING STAMPING ENGINE, 10½ feet stroke, and three boilers, about 35 tons, two fly-wheels, about 30 feet in diameter, with wrought-iron arms and sweep-rod, for working 96-heads, wrought-iron lifters, 6 cast-iron and 2 oak axles, and 24 oak frames.
1 22-inch cylinder WHIM-ENGINE, with two boilers, about 12 tons.
1 18-inch cylinder WHIM-ENGINE, with two boilers, about 16 tons.
1 16-inch cylinder WHIM-ENGINE, with one boiler, about 8 tons.

The whole of the above Engines have Brass Air-Pumps and Buckets.

A SAW-MILL, with water-wheel, 28 feet in diameter, and 20 inches breast, cast-iron fly-wheels, and oak axles and frames.

5 Capstans and shears; about 700 fms. of capstan and cat-head ropes, from 16½ inches round under; 1800 fathoms of whim-ropes and chairs, of various sizes; 230 fms. of wire rope; 6 horse-whims; about 300 fathoms of PUMPS, of the following dimensions—viz.: 15, 14, 13, 12, 9, and 8 inches diameter; with plunger-poles, windbores, working barrels, and top doorpieces, clack seatpieces, and brass buckets, plunger-pole cases, stuffing-boxes and glands, several hundred fathoms of ladders, 33 tram-waggons, 118 fathoms of 9-inch new oak rods, several hundred fathoms of flat and connection-rods, of various sizes, 600 fathoms of launders, about 2300 fathoms of tramroad iron, machine, horse, and square kibbles, water barrels, a large quantity of stands and pulleys, wheel and hand-barrows, ore hutches, buddles, frames, and trunks, miners' chests, about 4 tons of old pipes, several bundles of steel, 25 tons of NEW IRON, staples and glands, strapping-plates, of various lengths and sizes, boiler and kibble plates, stamps-heads and lifters, air-pipes, pulley blocks, iron and wood axles, weighing machine, 6 beams and scales, steelyards, brass and iron weights, new and old shovels, riddles, pick and shovel hilts, sheet-lead, white-lead, safety fuse, engine-shag, gunpowder, candles, brass clacks, seats, and rings, ditto rings, ditto valves, ditto poles, of 3¼ and 2¼-inch diameter, ditto air-pumps and buckets; two smiths' bellows, of the following dimensions—viz., 1 42-inch, 1 40-inch, and 4 36-inch; 4 anvils, 3 vices, smith's crane, punching engine, screwing stocks, taps, and plates, man-engine boring machine, a large quantity of smiths' and miners' tools, 2 grinding-stones, carpenters' benches, several tons of old wrought and cast-iron, a large quantity of old timber, old ropes, dials and stand, and a great variety of other materials in general use in the mines. Also, FOUR CART HORSES and HARNESS, 4 carts and wheels, chaffing machine, and the whole of the ACCOUNT-HOUSE FURNITURE.

For viewing the same, application may be made to Capt. Evans, of St. Agnes; or Mr. Heiston, at the mines; and for further particulars (if by letter, pre-paid) to Messrs. Grylls and Hill, solicitors, Helston; or to Messrs. Hodge and Hockin, solicitors, Truro.

Dated Registrar's Office, Truro, the 12th day of January, 1848.

TRELEIGH CONSOLS MINE, NEAR REDRUTH. —FOR SALE, BY PRIVATE CONTRACT, at the ABOVE-NAMED MINE, the following MATERIALS—viz.:

60 Pairs of ROD-PLATES—various sizes.
16 9-feet 8-inch PUMPS; 4 9-feet 7-inch ditto.
3 9-inch plunger poles,
3 8-inch ditto } with stuffing-boxes and glands.
1 10-inch ditto }
1 9-feet 6-inch working-piece; 1 6-feet 7-inch clackdoor-piece.
1 9-feet 7-inch windbore; 1 5-feet 7-inch pump.
15 10-inch shaft rollers.

For particulars, &c., apply to the agents on the mine.—Jan. 17, 1848.

TO BE SOLD, BY PRIVATE CONTRACT, the SETT and MATERIALS of EAST RELISTIAN MINE, situate in the parish of GWINEAR, in the county of CORNWALL.—This mine is suspended, in consequence of the pecuniary difficulties of some of the chief shareholders, whilst its prospects were never so encouraging. Copper ores, to a considerable amount, have already been risen, and the mine appears increasingly productive as it is being wrought in depth.

The speculation offers an excellent opportunity to a company who can raise but a small capital, as the workings may at once be prosecuted to a great extent on ore ground already developed, and without the aid of any additional materials. The engine is of 30-inch cylinder, and, together with the pitwork, is nearly new.

Application to be made to Capt. John Lenten, the manager, Poole, near Redruth; or to Mr. J. D. Vivian, the purser, Roseworthy, near Camborne.

VALUABLE PUMPING AND WINDING ENGINES FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, at WHEAL VOR MINE, in the parish of BREAGE, CORNWALL—

80-inch DRAUGHT ENGINE, 10-feet stroke in cylinder, and 8 feet in shaft, main beam and caps, top nozzle, spring piston and rod—all new this year; with four boilers, of 12 tons each, in excellent repair.
80-inch DITTO, 10 feet stroke in cylinder, 7½ feet in shaft, cylinder, piston, bottom and cover, nearly new, with two boilers, of 12 tons each, and three boilers, of 10 tons each, all lately thoroughly repaired.
49-inch DITTO, 9 feet stroke in cylinder, and 7 feet in shaft, without boilers.
20-inch WINDING ENGINE, 5 feet stroke, with two boilers, of 4 and 6 tons, and vertical cage, all in complete repair—the boilers and some other parts nearly new.
18-inch DITTO, 4 ft. stroke, with one boiler, of 5 tons, and horizontal cage, complete.
Several TONS of straight and turned STEAM-PIPES.
12-head CAST-IRON STAMPS AXLES, with bearings, oak frames, &c., complete.
A powerful WEIGHING MACHINE, nearly new, comprising every requisite.
An immense number of PUMPS, matching-pieces and windbores, 12 to 17-inch bore, with working barrels, doorpieces, H-pieces, cases, with stuffing-boxes and glands to match, from 11 to 19 inches bore, and plunger-poles, from 12 to 19 diameter.
Faggotted rod and cap plates, 6, 7, and 8 inches wide, staples and glands, eyerunners, caps, saddles, troughs and gudgeons for balance and other bobs.

Application to be made to Capt. R. Blight, jun., on the mine.

Dated Nov. 29, 1847.

N.B.—The above are of easy transit to Hayle wharfs, and from thence on ship-board, if required.

VALUABLE AND EXTENSIVE COLLIERIES, MACHINERY, COLLIERY PLANT, FARM, and LANDS, near ST. HELEN'S. TO BE SOLD, BY PRIVATE TREATY, in consequence of the death of the surviving partner in the firm of Speakman, Caldwell, and Co., all those old established and well-known COLLIERIES, called the GERARD'S BRIDGE, COWLEY HILL, and LITTLE COWLEY HILL COLLIERIES, comprising the following SEAMS of COAL—namely:

THE LITTLE MINE, or HIGHER DELF.
THE RAVENHEAD MAIN DELF.
THE ST. SEBASTIAN MINE.
THE SIR JOHN MINE.
THE FLAGGY DELF.
THE RUSHY PARK DELF, and
THE LITTLE MINE, or YARD MINE.

The above-mentioned collieries are in full operation, and in good working order—producing, at present, upwards of 100,000 tons per annum, and are held under leases from various parties, and for various terms—subject to the payment of annual rents and pecuniary admeasurements. The quantity of coal remaining ungotten is estimated at about 2,000,000 tons, which are laid dry by the present winnings.

The capabilities and operations of the concern may be very considerably extended by a moderate outlay of capital, in a new opening, on the deep of the present levels.

The machinery and general working stock are in a very efficient state, and will be sold with the mines.

The collieries are situate on the banks of the Sankey Canal, and have a branch railway from the mouths of all the pits, communicating with the St. Helens and Runcorn Gap Railway. They have been established for a period of upwards of 30 years, and enjoy an easy and valuable connection amongst the glass, alkali, and other manufactories in the immediate locality, and also in the salt districts of Cheshire, besides an extensive steam and export trade at the port of Liverpool.

There is attached to the collieries a FREEHOLD FARM, known as LITTLE COWLEY HALL ESTATE, containing 21 statute acres (very eligibly situated for building purposes), with a good HOUSE and suitable OUTBUILDINGS, now occupied by Mr. Henry Taylor, tenant of the colliery, and may either be taken by the purchaser of the collieries, or the trustees will dispose of it separately.

Further information may be obtained on reference to J. Langshaw, Esq., of the Hollins, near Bolton-le-Moors; Mr. John Mercer, colliery surveyor, St. Helens, at whose office the plans of the workings are kept, and may be inspected; or for full particulars, and to view the property, to Mr. Taylor, the agent, on the premises; or to J. Ansdell, Esq., solicitor, St. Helens.—Jan. 1848.

LAXEY MINES, ISLE OF MAN.—TO BE SOLD, BY PUBLIC AUCTION, by order of the Court of Chancery, at the instance of the Receiver of the assets of the Isle of Man Joint-Stock Banking Company, on Monday, the 31st of January 1848, at Twelve o'clock noon, in the Wellington Hall, Douglas, THREE SHARES, and FOUR-SEVENTHS of a SHARE, in the LAXEY MINES, carried on in the parish of Lonan, in this island.

These mines, which are held under lease from the Government, including the whole parish of Lonan, are well known to produce the richest ore in this island—the property in which is divided into 20 shares.

A large sum of money has been expended in improvements, and in the erection of new and substantial machinery, which are nearly completed, and by which the mine will be placed in a most efficient working state—superior, in every respect, to what it has ever previously been in. The average raisings of ore for the last 12 months have been 50 tons of lead, and 200 tons of black-jack, per month, which is, at least, one-third more than has been raised within any 12 months previous. The stock in hand is valued at upwards of £4000, to a proportionate share whereof the purchasers of the above shares will be entitled.—The mine can be seen upon application to Capt. Rowe, the manager, at the mines, who will give such information as may be required; and further particulars may be had from the Receiver. SENHOUSE WILSON, Advocate, Douglas.

Isle of Man, Dec. 22, 1847.

TO BE SOLD, BY PRIVATE CONTRACT, the SETT and MATERIALS of EAST RELISTIAN MINE, situate in the parish of GWINEAR, in the county of CORNWALL.—This mine is suspended, in consequence of the pecuniary difficulties of some of the chief shareholders, whilst its prospects were never so encouraging. Copper ores, to a considerable amount, have already been risen, and the mine appears increasingly productive as it is being wrought in depth.

The speculation offers an excellent opportunity to a company who can raise but a small capital, as the workings may at once be prosecuted to a great extent on ore ground already developed, and without the aid of any additional materials. The engine is of 30-inch cylindert and, together with the pitwork, are nearly new.

Application to be made to Capt. John Lenten, the manager, Poole, near Redruth; or to Mr. J. D. Vivian, the purser, Roseworthy, near Camborne.

TO BE SOLD, BY PRIVATE TREATY, FOUR (32nds) SHARES (the whole into 32 shares, being divided) in that well-known and long-established LEAD MINE, now in full operation, called the HOLYWELL LEVEL MINE, situate near the town of Holywell, in the county of Flint. A powerful steam-engine stands on the Mine, and an excellent level, for unwatering the land, has been driven a long distance, and altogether the Mine is worked on a large scale. A valuable discovery has recently been made, and which, when fully worked, must yield a large quantity of ore, and prove a source of great profit. The company carrying on the Mine is a highly respectable one. Satisfactory reasons given for the disposal of the present shares.

For all further particulars, address "W. W.," care of the Editor of the *Mining Journal*, 26, Fleet-street, London.

TO COLLIERY OWNERS, IRONMASTERS, & OTHERS. —TO BE DISPOSED OF, BY PRIVATE CONTRACT, a LEASE of a COLLIERY, and about TWO HUNDRED ACRES of LAND, with the COLLIERY PLANT, situate in SOUTH WALES, on a line of railway communicating with a sea-port.

The estate is in the heart of the Great Anthracite District of South Wales, and abounds in anthracite coal, of the best quality, and also in iron mine; and is peculiarly well adapted for the site of blast-furnaces.

The land is let to respectable tenants, at rents which already go far to meet the dead rent of the whole; and, from the improvable nature of the property, they may be considerably increased.

The lease, which has 91 years to run, contains covenants very favourable to the lessee, and the royalties are unusually low.

Liberal terms will be afforded for the payment of the purchase-money.

For particulars apply to the following:—

London—Messrs. Clarke, Fynmore, and Fladgate, solicitors, Craven-street, Strand.
Swansea—W. P. Struvé, Esq.
Llanelly—E. E. D. Grove, Esq.
Birmingham—Messrs. E. and C. Robins and Co.

AYRSHIRE.—TO BE LET, the COAL, IRONSTONE, and FIRE-CLAY, in the ESTATE of WATERHEAD, lying in the parish of NEW CUMNOCK, the property of Sir John Cathcart, Bart. This estate is in the vicinity of the Nithsdale Iron-Works, now being erected, on the one side, and of the Dalmellington Iron-Works, on the other; and it is believed the BLACK-BAND IRONSTONE, which is found in the estates of the Marquis of Bute, Craigangillan and Afton, adjoining, passes under about 1500 acres of Waterhead lands. There are also CLAY-BAND IRONSTONE and LIMESTONE in the property, and SMITHY COAL is now working within it. The Glasgow and Carlisle Railway, now in course of being made, passes within 3 miles of the lands.

There are various FIELDS of MINERALS in ESTATES adjoining, and in the near neighbourhood, now TO BE LET, so that any company, of skill and capital, would have ample scope for establishing iron-works on a large scale.

A plan of the estate, and general section of the minerals, with samples of the ironstone, will be seen on application to John Geddes, Esq., mining engineer, No. 49, Albany-street, Edinburgh; Arthur Campbell, W.S., No. 22, Dublin-street, Edinburgh; or Mr. Kennedy Brown, writer, Girvan—either of whom will receive offers for a lease.

Wm. Gemmell, residing at Meiklehill, on the estate, will point out the boundaries of it.

LAMHEROOE WHEAL MARIA,

OFFICES, No. 4, King-street, Cheapside, Jan. 20, 1848.

At a General Meeting of the adventurers in the mine, held as above, this day,

WILLIAM PEGG, Esq., in the chair.

It was resolved,—That the balance-sheet, showing a balance in favour of the mine of £1289 7s. 0d., when the last call of £1 per share is all paid, be passed—subject to examination by the auditors, Mr. Thomas Reeston and Mr. Henry Smith.

The reports of the late deputation to the mine, dated 20th Dec. last, and from Captain Tabb, of the 14th and 19th January, having been read and discussed, they were considered of a sufficiently satisfactory and encouraging character to warrant the most vigorous prosecution of the drivings on the K lode and its branches, whence, it is evident, a large quantity of ore may be raised to the surface and prepared for sale.

Resolved,—That the committee be requested to avail themselves of the resources of the mine, to carry out fully the recommendations contained in the said reports, and to provide the necessary machinery for crushing and dressing the ores, on the most economical basis.

Mr. Samuel Benny Serjeant, the purser of the mine, having absented himself from his duties, Mr. Crofts, the secretary, was requested to perform the said duties until another purser be elected; and it was resolved, that a special meeting of the adventurers be held on the 1st Feb. next, to reconsider all applications for the purserahip.

The Secretary having shown that the late purser, Mr. S. B. Serjeant, was in no way indebted to the mine—all vouchers for payments made by the purser being regularly forwarded to the office—such statement was deemed most satisfactory by the meeting.

Signed, on behalf of the adventurers, JAMES CROFTS, Secretary.

STRONG MIXING PIG-IRON.—The YSTALYFERA IRON COMPANY beg to solicit ORDERS for their ANTHRACITE PIG-IRON. This iron mixes well with Scotch pig—imparting to it strength and elasticity, and receiving from it a portion of its softness and fluidity. No. 3 Pig is recommended for mixing with soft iron—Nos. 1 and 2, for machinery castings, requiring great soundness and strength. At this period, when cast-iron is so much employed in the construction of bridges and other buildings, requiring all the strength and elasticity which the best mixture of metal will afford, it may be interesting to call attention to the characteristics of ANTHRACITE PIG-IRON, as REPORTED on by that great practical authority, the late DAVID MUSHET, Esq., M.I.C.E.:—

"It greatly exceeds, in *strength*, in *deflective* powers, and capacity to resist *impact*, any iron at this time manufactured in the United Kingdom."

"It now only remains for me to mention a property peculiar to this iron, which was noticed at the time I made the trial experiments, four years ago, but which has been more fully developed in those more recently made. The property referred to is one of *great springiness*, or *elasticity*, which communicates a tendency to the bar, in deflecting and breaking, to resume its rectangular form. Bars that had obtained a permanent set of 2-10ths, when afterwards broken, presented but a slight deviation from a right line; and in no case, did the curvature exceed one-fourth of a tenth."

"It was also remarked, that most of the fractures, in breaking, presented a *regularity of grain* throughout, resembling the structure of *unhardened steel*."

Address THE YSTALYFERA IRON COMPANY,
Dated June 22, 1847. *Near NEATH, SOUTH WALES.*

HOT-BLAST WITHOUT COAL, LABOUR, OR REPAIRS. DIXON AND BUDD'S PATENTS.

Apply for particulars, or to inspect the process in operation on six blast-furnaces, to J. Palmer Budd, Esq., Ystalyfera Iron-Works, near Neath.

Dated June 22, 1847.

PATENT GALVANISED IRON AND WIRE ROPE WORKS, *MILLWALL, POPLAR.*

ANDREW SMITH begs to inform the Mining, Railway and Shipping interests, that he has obtained a PATENT for an IMPROVED METHOD of GALVANISING IRON, producing a much superior article at a considerable saving in cost—the improved process for galvanising wire rope, adding only £10 per ton instead of £30, under the ordinary processes. The rope is extensively used in damp situations, for mining and railway purposes, and for ships' standing rigging.

ADCOCK'S PATENT SPRAY PUMP.—This important INVENTION having been PERFECTED, and brought into SUCCESSFUL PRACTICAL OPERATION, the PATENTEE is ready to RECEIVE, and to execute, ORDERS.—Apply to Henry Adcock, C.E., at his offices, No. 3, Northumerland-street, Strand, London, where pamphlets, descriptive of the invention, may be had; at the office of the *Mining Journal*, 26, Fleet-street; and through any respectable bookseller—price 6d.

WROUGHT-IRON ROOFS.—TENDERS are required for the DELIVERY and ERECTION of TWO WROUGHT-IRON ROOFS, for the GAS-WORKS at HAMBURGH.—Lithographed conditions may be obtained at the office of William Lindley, civil engineer, 8, Adelphi-terrace, London.

A MINERAL SURVEYOR, in SOUTH WALES, requires AN ASSISTANT. He will be principally engaged in surveying collieries, but he must also be a good land surveyor, and a neat draughtsman.—Applications, with terms and references, to be addressed to "P. L. W.," at the office of the *Mining Journal*, 26, Fleet-street, London.

TO MINE AND COLLIERY COMPANIES AND PROPRIETORS.—TWO SURVEYORS, thoroughly competent, are desirous of undertaking the SURVEYS of MINES and COLLIERIES, on terms advantageous to those who may have occasion for their services.—SALES or PURCHASES of SHARES in the above attended to with promptness and punctuality, on the usual commission.

3, Cannon-row, Westminster. DE WINTON & BONE, Surveyors.

LAND DRAINAGE.—Mr. W. HUGHES, Civil Engineer, begs to announce, that he undertakes the INSPECTION of ESTATES to be DRAINED, the SETTING OUT of DRAINS, the RECLAMATION of LAND, and the GENERAL SUPERINTENDENCE of WORK, at a FIXED CHARGE PER ACRE, according to the extent of land.—Full particulars may be had on application to Mr. W. Hughes, C.E., at the office of the *Mining Journal*, 26, Fleet-street, London.

TO DIRECTORS AND SHAREHOLDERS IN MINES. —ASSAYS and ANALYSES of all MINERAL PRODUCTS carefully PREPARED by Messrs. REYLIN and CHEESMAN, Analytical Chemists, &c., No. 30, Myrtle-street, Queen's-road, Dalston.

PATENT ALKALI COMPANY.—TO BE SOLD, a FEW PREFERENCE SHARES in this most eligible UNDERTAKING.—For further information, apply (by letter) to "F. B. A.," at the office of the *Mining Journal*, No. 26, Fleet-street, London.

FOR SALE, a 70-inch cylinder ENGINE, without boilers.— For price, and further particulars, please apply to Samuel Grose, Esq., engineer Wall, Gwinear, Camborne.

STEAM-ENGINES.—From 8 to 20-horse power ENGINES ALWAYS IN STOCK.

Apply to Mr. CAPPER, Engine-Maker and Founder, BIRMINGHAM.

Price—£12 to £16; with boiler, £22 per horse.

WILSON & FRASER, 2, WELLINGTON-BUILDINGS, LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS.

MR. R. TREDINNICK, THREE KING'S COURT, *LOMBARD-STREET, LONDON,*

Continues to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously, upon personal application.—MONEY ADVANCED upon the above securities.

JAMES LANE, MINING SHARE DEALER, 75, *OLD BROAD-STREET, LONDON.*

MONEY.—MESSRS. KILLICK & CO. (late WINSTANLEY, KILLICK, & Co.), SHAREBROKERS, inform their friends and the public, they make IMMEDIATE ADVANCES, to any amount, on the deposit of English and Foreign Railway Shares, Scrip, and Debentures, upon exceedingly advantageous terms: they also BUY and SELL every description of STOCK and MINING SHARES, at much less commission than usually charged.

6, Bank Chambers, opposite the Bank of England.

CASCADE MINE.—The BUSINESS of this COMPANY will henceforth be CONDUCTED at No. 12, HAYMARKET, LONDON, where all communications will be received and information given.

THOMAS HENRY TAUNTON, Secretary and Purser.

EAST AND SOUTH TAMAR MINES.—The AFFAIRS of these MINES being about to be WOUND-UP forthwith, Notice is hereby given, that NO OUTSTANDING ACCOUNTS or LIABILITIES can be INCLUDED in the SETTLEMENT, unless the particulars be forwarded to Messrs. Coode, Browne, and Co., 13, Bedford-row, London, on or before the 29th inst,

Dated 21st Jan., 1848.

GREAT ALVIGGAN MINE, near ST. AUSTELL.—The holders and proprietors of shares in the OLD COMPANY are hereby requested to SEND in their CLAIMS FOR REGISTRATION, and PAY-UP all COST in ARREAR, in respect of such shares or interest, on or before the first day of February next; in default of which, they will be peremptorily excluded from all participation or benefit in the new company, now being formed. C. F. KIRKMAN, Trustee and Manager.

Great Alviggan Mine, near St. Austell, Jan. 6, 1848.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY,

23, *HAWLEY-ROAD, KENTISH TOWN, LONDON,*

to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camborne, Cornwall.

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES, AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1830, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each.

DENT'S PATENT DIPLIEDOSCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use is. each, but to customers gratis.

OFFICE FOR PATENTS, 7, STAPLE INN, HOLBORN. J. MURDOCH (successor and late assistant to Mr. Hebert)

Informs INVENTORS and PATENTEES, that, at his OFFICE, they can obtain REFERENCE TO A CLASSIFIED LIST OF PATENTS,

(THE ONLY ONE EXTANT), which shows at one view all the Patents ever granted for any particular object, whereby they may save much trouble and expense, and procure information not otherwise obtainable. BRITISH and FOREIGN PATENTS OBTAINED, and USEFUL and ORNAMENTAL DESIGNS REGISTERED.

SPECIFICATIONS carefully prepared, and REPORTS of ENROLLED SPECIFICATIONS furnished on moderate terms.

FINISHED and WORKING DRAWINGS executed with accuracy and dispatch.

THE PATENT OFFICE AND DESIGNS REGISTRY, *No. 210, STRAND, LONDON.*

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees.

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years' experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patents, Railways, or otherwise, by a staff of first-rate draftsmen.

Application personally, or by letter, to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

ANOTHER SURPRISING CURE OF ASTHMA by Dr. LOCOCK'S PULMONIC WAFERS.—From Mr. Wm. Bowen, Carlett, Haverfordwest, dated Feb. 4, 1847.—Sir,—Having been afflicted for many years with a violent cough and asthma, and having tried all other medicines in vain, I was recommended to try Dr. Locock's Wafers. I sent for a box; and, to my great astonishment, I found relief in the very first night, and have continued to get better ever since. Their effects are really wonderful. My appetite is now good—whereas, formerly, I could scarcely keep any food on my stomach. (Signed)—WILLIAM BOWEN.—Dr. Locock's Wafers give instant relief, and a rapid cure of asthma, coughs, and all disorders of the breath and lungs. To singers and public speakers they are invaluable for clearing and strengthening the voice. They have a most pleasant taste.—Price 1s. 1½d., 2s. 9d., and 11s. per box. Agents: De Silva and Co., 1, Bride-lane, Fleet-st., London. Sold by all medicine vendors.

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Royal Botanic—Inner Circle, Regent's-park	3½ P.M.
	Asiatic—14, Grafton-street	2 P.M.
MONDAY	Geographical—3, Waterloo-place	8½ P.M.
	British Architects—16, Grosvenor-street	8 P.M.
	Ethnological—17, Saville-row	8 P.M.
	Medical—Bolt-court, Fleet-street	8 P.M.
TUESDAY	Medical and Chirurgical—53, Berners-street	8½ P.M.
	Zoological—11, Hanover-square	9 P.M.
WEDNESDAY	Microscopical—21, Regent-street	8 P.M.
THURSDAY	Royal—Somerset-house	8½ P.M.
	Antiquaries—Somerset-house	8 P.M.
	Medico-Botanical—32, Sackville-street	8 P.M.
	Royal Society of Literature—4, St. Martin's-place	4 P.M.
FRIDAY	Royal Institution—Albemarle-street	8½ P.M.
	Philological—12, St. James's-square	8 P.M.
SATURDAY	Westminster Medical—17, Saville-row	8 P.M.

GEOLOGICAL SOCIETY.

JAN. 5.—Sir H. T. DE LA BECHE (President) in the chair.

A paper "On the Silurian Rocks in the Valley of the Tweed," by J. Nicol, Esq., was read. The rocks forming the great mountain chain in the south of Scotland, though extending for more than 150 miles in length, with an average breadth of 25 to 30 miles, and covering about a 20th part of the whole island, have hitherto been very imperfectly known. They consist of strata of greywacke and clay-slate, running parallel to the axis of the chain from W.S.W. to E.N.E. The igneous rocks are felspar porphyry, occasionally passing into granite, disposed in beds parallel to the strata, and veins of greenstone running in all directions. These rocks have been raised up in long ridges or convolutions forming the mountain chains, between which are the channels of the chief rivers. From the rocks on the northern side of the formation consisting of coarser and more angular materials than on the south, it is inferred that the detritus was brought from the north, where land must then have existed. This land seems to have consisted of similar sedimentary deposits; and not of primary crystalline rocks, like those now found in the Scottish Highlands, as no fragments of the latter occur in the greywacke. The primary formations seem thus to have been formed at a more recent period, probably by the same igneous agents which upraised and folded together the greywacke. No rock older than this formation is known in the south of Scotland; and it is covered unconformably by the old red sandstone, which has in some places been deposited in bays or valleys of islands of Silurian rocks. On this red sandstone in Teviotdale, trap rocks, and in one place the porphyry of the Cheviots, are seen to rest. Fossils have hitherto been rarely found in these rocks. Last autumn Mr. Nichol discovered trilobites and various other fossils in Wrae lime quarry, in Peebleshire, among which Mr. Salter, of the Geological Survey, has recognised 13 species common in the Silurian rocks of Wales and Ireland. Last autumn, also, Lord Selkirk and his daughters have found several fossils on the southern side of the same chain of mountains, near Kirkcudbright, which are upper Silurian forms. More in the centre of the chain at Grieston, near Traquair, Mr. Nicol found *Graptolitus Sedgwickii*, a species common in Tyrone, in Ireland. It is hence considered probable that three zones or bands in these formations may be distinguished. One near the north side of the formation, including the Wrae limestone, and the limestones near Girvan and Colmonell, in which Prof. Sedgwick and J. C. Moore, Esq., have found Silurian fossils; a second in the centre of the chain, including the graptolite slates of the Grieston and Loch Ryan, where they have also been observed by Mr. Moore; and a third, the upper Silurian beds of Lord Selkirk, with which the author connects some strata in Liddesdale, in which he found fragments of vegetable remains. This division of the rocks is still problematical; but the fossils, at least, show that the sea, in which these beds were deposited, contained living animals in many parts in considerable abundance, and was not, as is often represented, wholly devoid of organic life.

INSTITUTION OF CIVIL ENGINEERS.

Sir J. RENNIE (President) in the chair.

The annual general meeting of the institution was held on Tuesday evening, the 18th inst., when the following gentlemen were elected to form the council for the ensuing year:—Joshua Field, president; W. Cubitt, J. M. Rendel, J. Simpson, and R. Stephenson, M.P., vice-presidents; J. F. Bateman, G. P. Bidder, I. K. Brunel, J. Cubitt, J. Locke, M.P., J. Miller, W. C. Mylne, T. Sopwith, J. R. M'Clean, andC. May, members; and J. Clutton, and T. H. Wyatt, associates of council. The report of the council continues to be very encouraging, and shows that the progress of the society is steadily good.

Telford medals were presented to Messrs. Jackson, Richardson, Murray, Glynn, and Frodsham, and to the two former gentlemen council premiums of books were added. Telford premiums of books were also awarded to Messrs. Elliott, Heppel, Shears, and Masters, for the communications made during the past session.

Memoirs were given of the deceased members and associates, Messrs. Thom, Giles, Lipkins, Mushet, Reynolds, Holtzapffel, Evans, Watkins, and Ball. The career of several of these gentlemen had been so varied, and possessed such points of interest, that the memoirs were necessarily extended beyond their usual length. The report noticed the increased attendance of members and visitors as evidence of its advancing career, and of the interest felt for the science of civil engineering. A pressing appeal was made to members of all classes to contribute papers, to induce animated discussions, which are the distinctive features of the meetings of the society. The principal events of the past session were touched upon, and several private matters relative to the internal management of the institution were fully discussed. The council then explained the changed form of the balloting papers, necessitated by the new bye-laws, and the retirement of Sir John Rennie from the post of president, which he had filled with such credit to himself and benefit to the society for the last three years. In conclusion, the report said, "Let the civil engineers remember also that 'union is strength;' and that, if they are true to each other, and use the institution as the common centre and bond of unity, they may set at nought all efforts to dislodge the civil engineers of England from the proud eminence where their talents, their practical skill, and their probity have placed them."

Before leaving the chair, Sir J. RENNIE, president, addressed the meeting on the selection of the president, and impressed upon them the claims of Mr. Field; not only as one of the founders of the institution, and who had filled for many years all positions in the society, nor because he was universally respected and esteemed as an upright, honourable, kind-hearted man, but chiefly on account of his acknowledged celebrity as a mechanical engineer, particularly in that most important department—steam navigation; and, because his election would unite more firmly the two branches of the profession, which, to ensure general prosperity, must ever go hand in hand, as they had hitherto done in the institution, in spite of all attempts to make it appear otherwise. He then reviewed the position of the institution during his presidentship, offering his best thanks to the vice presidents and the members of council, and to the secretary, for the support and assistance afforded him; and then examined, with much candour, the relative positions of the civil engineers, and of the Government boards and commissions, which had appeared to clash more than was desirable. This he showed not to arise from any of the acts of the civil engineers, who had ever been ready to afford their best assistance to the Government in any capacity; and further, that it would be the interest of the Government to take advantage of the talent, energy, and practical skill of the civil engineers, by whom they had ever been well served, rather than incur the hazard and the expense of forming a corps that would require more time for educating than could be afforded in these active times, when even hesitation was perdition.

This address was responded to very warmly by the meeting; and a vote of thanks to Sir John Rennie was received with cheers. Thanks were also voted to the council and the secretary of the institution for their services. The meeting was adjourned until Tuesday, Feb. 1, when the following paper will be read:—"On the Sewage and Drainage of Bristol," by James Green, M. Inst. C.E.

LITERARY NOTICE.

A Catechism of the Steam-Engine, with various Suggestions of Improvement. By JOHN BOURNE, C.E. London: John Williams and Co., Strand.

This little work, which is written in an unpretending style, will form a valuable compendium of practical information to all who are connected with the steam-engine. The reader is here not compelled to wade through the antiquarian lore of most writers: he is supposed to have passed his initiation, and to be conversant with the progress made during the preceding nineteen centuries, and is here presented with an extremely clear and practical investigation of the steam-engines of our own time. There is an elaborate account of the oscillating engine, as constructed by Mr. John Penn, who has brought this class of engine to such high perfection, that the *Banshee*, a vessel of doubtful form for speed, has acquired a velocity that the founders of railways, a few years back, even deemed chimerical. Where all is interesting, it becomes a difficult task to make selections; and since we have so recently devoted considerable space to steam-boiler explosions, and which, we are glad to learn, has excited interest in the proper quarter, we will extract from Mr. Bourne's work the mode of staying steam-boilers:—

"When the pressure of steam within the boiler is considerable, the boiler must be very securely stayed: the top and bottom, and also the sides, of the boiler must be stayed to one another, and it will not be sufficient to stay the top of the boiler to the top of the furnaces, and the bottom of the boiler to the bottom of the furnaces; for if a furnace changed its form, as it would be likely to do in such circumstances, the stays connecting it to the top and bottom of the boiler would be of very little utility in preventing the boiler from bursting. If the pressure of steam be 20 lbs. on the square inch, which is a very common pressure in tubular boilers, there will be a pressure of 2880 lbs. on every square foot of flat surface—so that, if the strain upon the stays is not to exceed 3000 lbs. on the square inch of section, there must be nearly a square inch of sectional area of stay for every square foot of flat surface on the top and bottom, sides, and ends, of the boiler. This very much exceeds the proportion usually adopted, and in scarcely any instance are boilers stayed sufficiently to be safe when the shell is composed of flat surfaces. The furnaces should be stayed together with bolts of the best scrap-iron 1¼ in. in diameter, tapped through both plates of the water space with thin nuts in each furnace, and it is expedient to make the row of stays, running horizontally near the level of the bars, sufficiently low to come beneath the top of the bars, so as to be shielded from the action of the fire, with which view they should follow the inclination of the bars. The row of stays between the level of the bars and the top of the furnace should be as near the top of the furnace as will consist with the functions they have to perform, so as to be removed as far as possible from the action of the heat; and, to support the furnace, top cross-bars may either be adopted, to which the top is secured with bolts as in the case of locomotives, or stays tapped into the furnace top with a thin nut beneath may be carried to the top of the boiler; but very little dependence can be put in such stays as stays for keeping down the top of the boiler, and the top of the boiler must, therefore, be stayed nearly as much as if the stays connecting it with the furnace crowns did not exist. The large rivets passing through thimbles, sometimes used as stays for water spaces or boiler shells, are objectionable; as from the great amount of hammering such rivets have to receive to form the heads, the iron becomes crystalline, so that the heads are liable to come off, and indeed sometimes fly off in the act of being formed. If such a fracture occurs between the boilers after they are seated in their place, or in any position not accessible from the outside, it will in general be necessary to empty the faulty boiler, and repair the defect from the inside. The stays, where the sides of the boiler are flat, and the pressure of the steam is from 20 to 30 lbs., should be pitched about 1 ft. or 18 in. asunder, and in the wake of the tubes where stays cannot be carried across to connect the boiler sides; angle iron ribs, like the ribs of a ship, should be rivetted to the interior of the boiler, and stays of greater strength than the rest should pass across, above, and below, the tubes, to which the angle irons would communicate the strain. The whole of the long stays within a boiler should be firmly rivetted to the shell, as if built with and forming a part of it; as by the common method of fixing them in by means of cutters, the delay or accidental detachment of a pin or cutter may endanger the safety of the boiler. Wherever a large perforation in the shell of any circular boiler occurs, a sufficient number of stays should be put across it to maintain the original strength; and where the stays are intercepted by the root of the funnel, short stays in continuation of them should be placed inside. The flues of all flue boilers diminish their calorimeter as they approach the chimney: some very satisfactory boilers have been made by allowing a proportion of 0·6 of a square foot of fire-grate per nominal horse-power, and making the sectional area of the flue at the largest part 1-7th of the area of fire-grate, and at the smallest part where it enters the chimney 1-11th of the area of the fire-grate; but in some of the boilers proportioned on this plan the maximum sectional area is only 1-7·5 or 1-8·6, according to the purposes of the boiler. These proportions are retained whether the boiler is flue or tubular, and from 14 to 16 square feet of tube surface is allowed per nominal horse-power; but such boilers, although they may give abundance of steam, are generally needlessly bulky, and the method of fixing the proportions does not appear so eligible as that previously suggested."

The absence of illustration is to be regretted; and, we hope, in succeeding editions, Mr Bourne will favour his readers with a description of the boilers of some of the small river steamers, which would form a valuable addenda to his lucid description of Mr. Penn's oscillating engine, and still further increase the value of his work, which contains papers on incrustation of marine boilers, their strength, together with constructive details, and management, some of which we shall shortly again refer to—papers, we may add, which are in themselves, singly, of greater value than the price of the entire work.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Sambre and Meuse Railway—London Tavern, at One.
TUESDAY	London and Greenwich Railway—offices, at One.
	Direct London and Exeter Railway—Guildhall Coffee-house, at Twelve.
	Reliance Mutual Life Assurance Company—offices, at One.
WEDNESDAY	United Mexican Mining Association—offices, at One.
	Holyford Copper Mining Company—offices.
	National Life Assurance Company—offices, at One.
THURSDAY	Ratcliffe Gas-Light and Coke Company—London Tavern, at Two.
FRIDAY	Great Wheal Martha Mining Company—offices, at Twelve.
	Australian Agricultural Company—offices, at One.
SATURDAY	Australian Trust Company—offices, at Twelve.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

ST. KATHARINE DOCKS COMPANY.

A general meeting of proprietors of the St. Katharine Docks was held on Tuesday, the 18th inst., at the Dock-house, Tower-hill, for the purpose of declaring a dividend for the half-year ending the 31st December last,

THOMAS TOOKE, Esq. (the chairman of the company), presided.

The SECRETARY read the notice for convening the meeting, as published in the *Gazette*, and morning and evening papers.

The CHAIRMAN observed, that the accounts of receipt and expenditure of the company for the year ending the 31st December last, had, as usual, and in accordance with the provisions of the Dock Act, been accessible to the proprietors during the last 14 days. From these it appeared, that the general balance brought forward on the 1st of January last, was 88,569*l.* 7s.; and that the balance brought forward on the 1st of the present month, was 88,980*l.* 19s. 3d., showing a slight increase. The gross earnings of the company (fractions omitted) were, during the year 1846, 229,815*l.*, and the expenses amounted to 124,270*l.*, leaving a balance in favour of the company of 105,545*l.*; whereas the gross earnings during the last year were 260,004*l.*, and the expenses 146,968*l.*, leaving a balance in favour of the company of 113,736*l.*, being an increase of 8191*l.* in the net earnings of 1847, as compared with those of the year 1846. The accounts further showed, that a diminution of 5314*l.* had taken place, during the last year, in the charge for interest upon the floating debt—353,500*l.* of which had been already extinguished by the measure of conversion in progress since 1845, which sum of 5314*l.*, added to the net earnings, constituted an amount of 79,234*l.*, applicable to dividend for the past year, but 4627*l.* short of 5*l.* per cent., computed on the increased capital, which now amounted to 1,700,687*l.* It would be in the recollection of the proprietors who were present at the last January meeting, that the directors then announced, that unless there should be "a material increase in the earnings of the company during the (then) current year, they would not feel justified in any further encroachment on the rest; but would consider themselves as having no alternative but that of proposing, at the next (present) January meeting a reduction in the dividend." And, at the July meeting, a declaration of similar import was incidentally made, in answer to an inquiry by a proprietor. Notwithstanding the great augmentation of business, and increase in the earnings, during the past year—the gross amount of which exceeded by several thousand pounds the gross earnings during any one year since the opening of the docks—the net earnings were, as before stated, short of the usual dividend. The directors, therefore, were satisfied of the expediency of adhering to the determination which they announced in January last, not to encroach further upon the rest; and they were now prepared to recommend such a reduction in the rate of dividend, as may afford the means of replacing, from time to time, the sums that have been taken from the rest (of which amount the proprietors have had the benefit, in the shape of dividend); and further, of making some provision for contingencies which might be expected during the year, from derangement in the mercantile and monetary affairs of the country, the injurious effects of which must be especially felt by the trade of the port, and, consequently, in a degree by the Dock Company in common with all other establishments connected with the commercial and shipping interests of London. Under these circumstances, the directors recommended to the proprietors to declare a dividend for the half-year ending the 31st December last, of 2 per cent., the income tax to be defrayed by the company, which would make the dividend for the past year 4½ per cent. Before, however, submitting a resolution to that effect to the meeting, the directors deemed it proper to advert to the disproportion between the gross and net earnings of the company during the past year, which they had reason to believe, as respects that establishment, had not been singular in the port of London. The causes were fully accounted for by the description of merchandise that formed the chief part of the excess landings having been bulky, and subject to heavy expense for labour, which had been further increased from the great pressure of business during a limited portion of the year, in consequence of the simultaneous arrival of a very large number of the cargoes; whilst, at the same time, it was to be observed, that the dock rates on such description of merchandise were extremely low. It would, however, be satisfactory to the proprietors to find, from the statistical returns of business transacted in these docks during the last year, evidence of the industry and unceasing attention which have been devoted by the management to the interests of the company. These returns showed the following results:—

ST. KATHARINE DOCKS.

	1845.	1846.	1847.
Goods landed ..... *Tons*	111,917	117,925	157,720
Increase in 1847			39,795 tons.
Goods delivered ..... *Tons*	117,200	116,960	148,039
Increase in 1847			31,079 tons.
Landed and delivered ..... *Tons*	229,117	234,885	305,759
Increase in 1847			70,874 tons.
Stock of goods in warehouse ..... *Tons*	60,126	61,091	70,772
Year's increase, Dec. 31, 1847			9681 tons.

SHIPPING.

	1845.		1846.		1847.	
	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.
Entered with cargoes	649	170,778	673	171,481	742	190,857
Entered light to load	350	34,523	244	25,604	281	27,242
Total increase, ships and register tonnage, in 1847 over 1846					106	21,014

Ships with Cargoes entered the Port of London from Foreign Parts.

	1846.	1847.
British ..... *Ships*	5228 ... 1,134,646 *tons*	*Ships* 6265 ... 1,426,612 *tons*
Foreign ..... „	2479 ... 393,388 „	... „ 3105 ... 492,344 „
Increase in 1847—British		„ 1037 ... 291,966 „
Ditto Foreign		„ 626 ... 98,956 „
Total increase in 1847		„ 1663 390,922 „

The CHAIRMAN then submitted a resolution for declaring a dividend, as proposed, and expressed his readiness to afford to the proprietors the fullest information upon the affairs of the company, as might be desired.

The recommendation of the directors to reduce the dividend, under the special circumstances, appeared to be considered a very judicious measure, especially as keeping faith with the public, as regarded the declaration made in January last, before referred to.

After some general discussion, thanks were voted to the chairman and directors, when the meeting adjourned.

RAILWAY BRIDGE OVER THE FALLS OF NIAGARA.—I have been intensely interested to-day in listening to a description, from a well-informed and competent source, of the great bridge over the gorge that separates the dominions of the Queen from those of the President. If anything could be wanting in the attraction of the country about Niagara to turn thither the tour of the multitudes in the pleasure season, this bridge will supply it. Its thousands of tons weight of the strongest iron cord that the ingenuity of the ironmaster can desire, find a safe support in wrought-iron anchors built in the solid rock 100 feet below the surface, so that before it could yield, the very rock-bound earth would forsake its tenacity. A large wooden framework is to be placed, so that no undulating motion can be experienced. In full sight of the cataract—the surge of angry waters far beneath—the sullen storm-beaten rocks all around—the quick locomotive will put forth all its quickness to rush beyond the peril of its journey. This glorious work is already begun, the money for its cost paid in and available, the excavations commenced, and the contractor is to cross on horseback by the middle of next June. Its firmness is to be such that, with all the burden of a powerful locomotive and a long attendant train of cars, it is not to vibrate 1 inch in the centre. The railway is to occupy the centre, two carriageways on either side, and two footways. What a magnificent spectacle this road in full use will present! A road of this kind over the Menai Straits in Wales is famous for the daring displayed in its construction. That over the Niagara will soon be world-famed. It will be an iron link of civilisation between the two ruling powers of the world, and will never be severed. One of the first thoughts that present themselves in reference to the construction is, as to how the wires are to be thrown across. The steam-boat now used below the Falls is to take over two cables, to which strands of iron are affixed. These are to be drawn over till two ropes of iron are drawn over, on which a temporary pathway is to be placed—and when I inquired where workmen could be found who have nerve enough to work effectually under such circumstances, the answer so characteristic of American strength of action was, "Oh, there are always plenty of Yankees who have both the courage to work there, and the ingenuity to work well." The great railway in Canada, which is to be connected with this mighty work, presents some admirable features. Its grade is over 20 feet, and a very, very large proportion of the distance is on a straight line. On one line, perfectly straight, 90 miles are laid out. All the highways of the country are to pass either over or under the road, by depression or elevation—so that there will be neither obstacle nor hindrance to a flight which will put more life into the provincial dominion of her Britannic Majesty than it has yet seen. "That same" province of Canada West has yet to see great days. England expends millions on sections of her great dominion far less worthy of her notice and fostering care. "The last link" is completed when this great bridge of the cataract shall have been completed. From Boston and New York an unbroken line is presented, and the day is soon coming when some correspondent of yours will delineate the incidents of a 30 hours' journey from the metropolis to Detroit. Such are the movements and the progresses in support of which all may unite, and which mark a busy day.—*New York Courier and Enquirer.*

RAILWAY CONTRACTORS—IMPORTANT DECISION.

The important case between Messrs. Stephenson and Co., contractors on the Caledonian Railway, and a number of the labourers in their employment, which has been repeatedly before Mr. Sheriff Tait, in the Small Debt Court, and delayed from various causes, was decided on Friday in favour of the workmen. It appeared that there were 13 summonses before the court in connection with the case; but it was agreed that the case of one of the men, named Murray, should be taken as the one which should rule the others. From the lengthened discussions which have taken place, it seems that Murray and several other of the labourers made a claim of 3*l.* 12s., as the sum due to them for 24 days' work during the month of November, at 3s. per day, of which, however, only 3*l.* 4s. had been paid, or wages for the period stated at the rate of 2s. 8d. a day. The difference in the rate of labour was caused by a reduction that was made of 4d. a day, from the diminished amount of work performed by the men in consequence of the alteration in the length of the days during November, but which was resisted by them on the ground that they had received no notice of the proposed reduction. The first point, therefore, which was raised in the case, was whether it was the general practice in this description of labour to give notice to the men of any intended reduction in the rate of wages.

BERNARD FOX stated that he had been engaged in this kind of work for the last 48 years, both in connection with canals and railways, and had been employed in these undertakings in various parts in England and Scotland, and particularly in the neighbourhood of Edinburgh, and had, therefore, considerable experience in the mode of treating men with regard to payments. He never knew an instance of a contractor paying men at the end of a month at a rate lower than that he had paid the previous month, without warning having been previously given to that effect. He thought that, if no notice had been given to the men of an intended reduction in the amount of their wages, the contractors would be liable to pay them their previous rate of wages; and though orders had been issued to the gauger to intimate a contemplated reduction to the men, if he failed to comply with his instructions, the contractors were yet bound for their payment at the old rate.

Mr. M'CALLUM, who stated that his experience in this species of labour extended over a period of 27 years, confirmed the evidence of the previous witness.

It was then stated on the part of the contractors, that they were willing to admit that special notice of the reduction had not been given to the men, though they were prepared to maintain that, if a general notice had been given, it was quite sufficient; while, by the usage adopted on similar works, the men were bound to make themselves acquainted with the changes that were effected at various seasons. This argument occasioned another discussion on the point, whether such a general intimation had been given as was contended for.

The mode in which payment was made to the men was, that during the currency of the month in which they were engaged in labour they had power to obtain a certain supply of provisions from the store generally kept for their convenience, which was deducted from their wages at the end of the month—the amount due to the workmen being computed from the books of the timekeeper, when they received the balance in money. In the case before the court, Murray obtained provisions to the amount of 1*l.* 16s., and received the surplus of 1*l.* 8s., due to him at the rate of 2s. 8d. a day for 24 days' labour; and it was contended that, as he had accepted that sum without remonstrance, and continued to work for 19 days at the same rate of wages, it was a conclusive settlement of the transaction. It was further stated, that the men received a number of blank orders from Messrs. Stephenson and Co., by which they obtained the supplies of goods they required; and as the amount was marked on their tickets, with the balance due to them, their acceptance of it was to be held as a discharged receipt, and as a definitive settlement of the claim, and was also to be regarded as evidence that they were aware of the reduction that had been made. The responsibility and danger of adopting any other view of the case was strongly urged, as it might lead to a review of the whole payments of the 20,000 labourers employed on the Caledonian Railway, from the commencement of the works.

The reply which was made to this statement was, that the men had accepted the balance as money received to account, and then summoned for the remainder. It was denied that they had made no objection to the settlement of their claims, as had been stated, for the summonses were raised a day or two after the payments were made. It was also contended, that the tickets held by the labourers could not be regarded as receipts; whilst their acceptance of the amount paid as the balance due to them did not imply a knowledge of the intimation which it was alleged they had received of the intended reduction of their wages.

Mr. Sheriff TAIT said that the case was a very serious one, and would serve to regulate the others, which were similar in their character. He thought that the acceptance of the sum paid to the men did not foreclose them from endeavouring to obtain the full amount which they considered due; and it appeared that they had immediately afterwards challenged the sums which they had received. From the evidence which had been given he considered that the men were entitled to the higher rate of wages, unless it could be made out, which had not been done, that they had been fully aware of the intended reduction. No sufficient evidence had been submitted to that effect; and he, therefore, found that they were entitled to receive the difference between the sum they had obtained, and that to which they were entitled according to the former rate paid them.—*North British Mail.*

ACCIDENTS.

Kingswinford.—Three colliers, named W. Twigg, M. Guest, and J. Hodgetts, were suffocated, while working in Black Pit, Tansey Green.

East Rainton.—T. Smiles, aged 12 years, while playing with several other boys, imprudently got upon a crank of the fly-wheel of the Moorsley Pit engine-house, to ride round whilst the engine was in motion; and, having lost his hold, he fell by the side of the wheel, whereby his left thigh was broken, and he was otherwise severely injured.—He died the same evening.

Consols Mine, Gwennap.—As R. Burrows was running down some attle, at the 175 fm. level, in Davey's shaft, a large quantity fell away unexpectedly on him, and completely buried him. Several persons immediately set to work to clear away the stuff, but it occupied them four or five hours to do so, and when they had succeeded he was quite dead.

Byer's Green Colliery, Durham.—After his labour, W. Jones had ascended the pit, and, having a candle in his hand, reached over to the oil lamp to light it. George Thubborn, the banksman, shouted to him to come off the pit. He came from the lamp, turned to the left, instead of the right, walked into the shaft, and fell to the bottom. A man immediately descended the shaft, but found him quite dead. Three sides of the shaft were fenced, and the open space where he had fallen was only about 2 feet 9 inches. The deceased had probably been dazzled with the glare of the lamp, and thus prevented from seeing where he was moving to.

Spath Colliery, Rochdale.—As R. Fenton and M. Ronsley were descending Messrs. Knowles and Thompson's pit, they had got but a few yards when the rope broke, and they were precipitated about 100 yards, and both killed.

Cappon Field Colliery, Bilston.—J. Fizard, while working on the bank, caught hold of the rings of a skip about to be landed, when the whimsey raised the skip, taking him off his legs, and he fell down the pit. He was immediately picked up by a man who was working within a few yards of the bottom of the shaft, when his skull was found to be fractured, and his body dreadfully cut and bruised—he was quite dead.

St. Helens.—H. Morris, aged 12 years, was killed by a fall of coal at Ashton's Green Colliery.—A companion, named Highcock, was dangerously injured by the same accident.

St. Denis.—A frightful accident occurred in the extensive establishment of M. Caré, the engine-builder, Faubourg, St. Denis. A vast quantity of iron was in a state of ebullition, when suddenly the furnace burst, and the scalding metal flowed forth as lava from a volcanic crater. Eight workmen, being unable to get away with sufficient rapidity, had their feet surrounded by the boiling mass; and the poor fellows were so dreadfully injured, that it is feared they must have their legs amputated.

Alfreton, Derbyshire.—T. Pursglove was killed while working in one of the pits here.

Tupton.—J. Higginbottom was killed from the effects of fire-damp.

Dudley.—J. Heath and D. Turner were killed by a fall of coal, in Burn's-lane colliery.

Dudley Wood Furnaces.—As J. Parish was filling a barrow with burnt ironstone, at the British Iron Company's Works, a quantity, weighing about five tons, suddenly fell upon him; and, though he was immediately extricated, he was so severely burnt, that, after lingering some time, he expired.

SERIOUS CHARGE AGAINST A COLLIERY PROPRIETOR.—For some time past suspicion has been entertained that the workings of the coal mine of Mr. Bleasdale, known as the Chapel Colliery, in Wigan, near the Wesleyan Methodist Chapel, in Wallgate, have been extended beyond his legal bounds, and under very valuable portions of property in several parts of the town. Mr. Bleasdale holds the Chapel Colliery on lease from Col. Walmsley, but has also at various periods purchased other portions of coal under land near or adjoining. The Earl of Balcarres, it appears, some time ago, agreed with him to drive a drift through some land of his lordship's, to enable him to get the coal under an adjoining property. In the lease from the earl, powers were reserved for his lordship's viewers to go down the mine at any time and inspect the workings in the property of his lordship; and under this power a surveyor descended the pit in December last, when it was found that the coal had been gotten much beyond the limits prescribed, and that a drift had been made under the church yard, and under the parish church. Rumour had been much afloat on this subject, and it has been stated that the miners have been heard blasting in several other directions from the pit's mouth. Last week a warrant was obtained against Mr. Bleasdale, on a charge of feloniously getting coal belonging to the Earl of Balcarres, and it was placed in the hands of proper officers for its execution. Subsequently to this, Mr. Bleasdale was seen in the town, but he has hitherto avoided apprehension, and remains at large. On its becoming known to the colliers employed in the mine, that the officers were in possession of authority to apprehend Mr. Bleasdale, they quite disarranged the working apparatus of the pit, not only taking away a material part of the engine, but also the ropes off the pulleys, and likewise destroying the current of air through the workings. All this was done to prevent any person descending the mine; and, in addition, the most fearful threats were held out, that they would throw any officer or other person down the pit who might attempt to descend. Matters remained in this condition until Friday, when a person named Grimshaw, lately underlooker to Mr. Bleasdale, and another man named Bleasdale, an agent and a relative of the proprietor, were taken into custody as accessories to the felony. They were the same afternoon taken before the mayor, at the Town-hall, when Mr. Mayhew and Mr. Ackerley appeared on behalf of the prosecution, and Mr. Hilton and Mr. Leigh for the defendants. Mr. Tarbuck, viewer for the Earl of Balcarres, who had been in the pit in December last, and examined the mine, proved the nature and extent of the workings. Evidence was also given, at considerable length, by witnesses, of different transactions concerning the mine, in which the defendants were engaged. At the request of Mr. Mayhew they were remanded until Tuesday last, for the production of other evidence. Mr. Mayhew also made an application to the bench for the attendance of the police officers to prevent a breach of the peace on the parties proceeding to examine the workings, which was apprehended from the threats held out. The court said they must have necessary protection.—Bail was offered for the defendants' future appearance, but was refused. Since Friday surveyors have been down the pit making the necessary explorations of the extent and direction of the workings, from which important disclosures are expected.

A SURPRISING CURE OF A BAD COLD THAT HAD SETTLED ON THE LUNGS BY HOLLOWAY'S PILLS.—Jane Kruger, residing at 33, Cursitor-street, Chancery-lane, was reduced to a mere skeleton, owing to a violent cold, so that her liver and lungs had become dangerously affected. When she last attended Bartholomew's Hospital, her mother was told by a medical gentleman—"That he scarcely thought she would live to reach home." Her father then, as a forlorn hope, commenced rubbing her chest, sides, and loins with Holloway's ointment, and gave her those famous pills twice a day; which, to the surprise of all, saved the child's life.—Sold by all vendors of medicine throughout the civilised world, and at Professor Holloway's establishment, 244, Strand.

Mining Correspondence.

ENGLISH MINES.

BARRISTOWN.—Since my last report we have had a considerable improvement in the adit end east; we have now a beautiful gossan lode, about 3 ft. wide, mixed with lead, which is drawing the water at Nangle's shaft; and, from present appearances, we shall have the workings in a way of clearing by next Friday. A party of tributers have taken a pitch in the back of the level behind the adit end, with a fair prospect of raising ore. The lode in the 18 fm. level end west is much the same as last reported, producing stones of ore—the lode small. In the 12 fm. level end west the lode is very much improved, now about 2 ft. wide, well mixed with lead; the stopes in the back of this level, behind the west end, are worth about 6*l.* per fm.; the stopes, over Doyle's, in the back of the 18 fm. level also, are worth from 18*l.* to 20*l.* per fm. In the winze, in the bottom of the 12 fm. level, the lode is exceedingly poor; the men are at present employed in taking away a piece of ground east and west of it on the lode; a party of tributers, in the back of the 12 fm. level, have discovered a good lode taking south, very flat, worth about 10*l.* per fm.; in the winze, east of flat-rod shaft, the small branch of lead is cut off by a slide. The branch on the north side of the 18 fm. level, west of flat-rod shaft, we are still working on, but it is also poor—worth about 6*l.* per fm. We hope to ship a small cargo of lead, which we have ready, early in the ensuing week; up to the present time we have not been able to get a vessel of any description that would take it.—Jan. 14.

BEDFORD UNITED.—At Wheal Marquis, the lode in the 90 fm. level west, is 2 ft. wide, producing about two tons of ore per fm.; in the same level east, we are still driving north; the lode in the stopes, in the back of this level, are worth from 60*l.* to 70*l.* per fm.; in the same level, south of Hooper's winze, we are driving east on the south lode, which is 2 ft. wide, producing some saving work; there are about 6 fms. more to drive, to communicate this level with the 90 fm. level, west of the sump-winze. The engine-shaft is 4 fms. 1 ft. under the 80 fm. level. In the 80 fm. level east, the lode is 2 ft. wide, composed of spar, mundic, and ore. The lode in the 70 fm. level east is 2 ft. wide, producing good stones of ore. There has been no lode taken down in the 25 fm. level, east of the south engine-shaft, since last report. The lode in the adit level, east on this lode, is 2 ft. wide, producing good stones of tin and copper ore.—Jan. 19.

CARADON COPPER.—As many of the shareholders in this speculation had a desire that I should inspect the mine, and give them my real opinion as to what I think of the lodes, and the prospects they hold out to the shareholders, and what depth I think they may reasonably expect to find copper, to-day, having about four hours leisure, I embraced the opportunity, and dedicated it for that purpose; but, alas, what can I say respecting a mine that is decreed by some of those prophets who pretend to see through all this part of the globe, that this, with all other mines in this district, which are in the killas, shall not be found to be productive of any metallic ores; they have confined all the copper, tin, and lead, to the two Caradons—this I would readily admit, if there were not some more zealous in prosecuting their speculations further than many others have in this neighbourhood, who commence operations, build up an engine-house, fix the engine, put her to work, sink a shaft some 30 or 35 fms., and when the lode at that point promises to pay the shareholders for the outlay—alas! Capt. Somebody inspects the mine, and because he wishes to be revenged on one or two of the agents that had an interest in the working of the mine, he goes to some of the largest holders, and with his insinuating tongue condemns the mine—her doom is fixed—her die for ever cast. Many others have not gone so far as this, but merely have driven an adit for some 50 or 60 fms., discovered some promising lodes, with some good copper in them, and abandon the workings—if this is the way to bring out a paying mine, or to get rich, I leave that for my readers to judge for themselves; my opinion is, that if the mines in this district were but sunk to a proper depth, and levels extended on the lodes, that St. Cleer would be as good a parish for mining as any in this county. But I must now return: one of those parties I before alluded to—that is, one who thinks his practical experience in mining and mining operations far exceeds all others—for some time paid to visit Caradon Wheal Hooper for a party holding shares—doomed her to eternal worthlessness—that there would never be a stone of copper broken underneath the surface of this sett—he, the said all-knowledge, after being taken to the 30 fm. level, and seeing a lode there 5 ft. wide, capeled with good walls, composed of spar, peach, mundic, with thousands of particles of yellow copper ore, goes on further to say, that we have no lode in the sett—this, I am happy to say, I can confute by sound reason: first, by the number of lodes I can show near the surface; secondly, by the copper broken from one of them, and taken to surface; the county cannot produce richer yellow copper ore—so much for such knowledge; I could say much of brother chip's good qualities, but he is one of those sanctified ones that are well known in this neighbourhood, to speak fair to any one's face, but rail behind their back—the man that this cap will fit I hope he will put it on. Now, for my visit to Caradon Copper Mine; my attention was at first drawn to see a lode in the adit level, which is about 3 ft. wide; for 80 fms. in the level to which it is extended it is regular and compact, composed of gossan, spar, peach, &c.; no further judgment can be put on this, than to say, it is a lode worthy of a further trial—say to sink as deep as the 40. The next was the shaft, which is sunk about 33 fms. from surface, in the bottom of which I was pleasingly surprised to see the nature of the ground so strongly mineralised; in the south side of the shaft there is a branch of mundic and copper, 8 in. wide, which will fall into a large lode they are expecting to cut in the shaft, in sinking from 2 to 3 fms. deeper—this, I think, to be an object of no small importance, as I have seen instances of this kind to prove productive in other mines; I think, when this lode is cut, that it will put a better aspect in the mine, that the shareholders will see something to stimulate them to sink another 10 or 20 fms. to develope the resources of the lodes, as they must reasonably expect that the 30 is not a fair trial. The next place I was taken to by the guide was the 20, north of the shaft, where I saw a lode full 10 ft. wide, regular, and compact, with good walls, and some very encouraging indications, composed principally of spar, peach, gossan, prian, &c.; this is the lode we expect to see in the shaft shortly, and where the two lodes will meet. I was then taken to the south part, where I saw a lode which had been driven on for 12 fms. or more; this is a regular lode, with some lead in it, and jack—a lode 3 to 4 ft. wide, worthy a further trial. Under present circumstances, I consider Caradon Copper Mine to be a good speculation.—JOHN SETMOUR: Jan. 19.

COÁTLITHE HILLS.—I have again put the men to clear and secure the level east from A shaft, and shall endeavour to get to the limits of the old workings as quickly as possible.—Jan. 15.

CUBERT SILVER-LEAD.—In the 35 fm. level, going east, the lode is 1 ft. wide—spar, mundic, and lead, worth half a ton per fm., or 6*l.* or 8*l.*—a very kindly lode indeed; west, in this level, we have just now cut the elvan, which is at present very hard; this we have found to be the case in every level in the coming in of the elvan; the lode is 18 in. wide, composed of soft spar, flookan, and lead, worth 4*l.* per fm. In the 25 fm. level west, the lode is 18 in. wide—spar, mundic, and lead—a very promising level, worth from 3*l.* to 4*l.* per fm. In the 15 fm. level west, the lode is 2 ft. wide—spar, mundic, and lead, but not rich for the latter.—Jan. 14.

DEAN PRIOR AND BUCKFASTLEIGH.—In driving in the 20 fm. level west, on the south part of the lode, a further improvement has taken place since my last report; the lode is now composed of capel and spar, intermixed with horseflesh and yellow ore of rich quality; I am much pleased with our prospects in this direction; the pitch in the back of this level is producing some good work, the indications are very encouraging. I beg also to state, that I have set a pitch in the back of the 10 fm. level, at 12*s.* in 1*l.* We are making all the progress we can as to sinking the engine-shaft, while, at the same time, we are getting on with the surface work; we have disengaged the drum from the small or lower wheel, and the carpenters are engaged removing and refixing the same to the 24-ft. wheel, which, in the course of a few days, will be completed, when the fixing of the crusher will be proceeded with as speedily as possible.—Jan. 19.

DRAKE WALLS.—In Brenton's engine-shaft there are good branches of tin—ground hard, and spare for sinking. The 50 end, west of Brenton's, under the arch, poor, but the height of an end is no criterion—our tin ground runs on floors. The stopes, in the 40, east of Brenton's—good branch; the stopes, in the 40, west of machine-shaft—good saving work; the stopes, in the 40, east of machine-shaft—saving work. The stopes, in the 33, east of machine shaft—saving work; the end under the 33 arch, east of machine shaft—good branches; Johnson's engine-shaft, sinking below the adit—good branches, but small. We are now putting up a horse-whim, temporary, to draw the work up, preparatory to the new engine going to work, which will be about the middle of next month. The last of the engine arrived at Calstock, on the 2d inst. The driving west on the north lode, near the Tamar, has been suspended in order to bring up a lobby, to unwater the drivage, which is now complete. We shall at once resume our driving west. We intend sampling the middle of next week—say 20 tons.—Jan. 15.

EAST CROWNDALE.—The ground in our engine-shaft is much the same as last reported upon—a blue killas, with small branches of spar, containing yellow copper ore. We have fixed the bearers, &c., for a standing lift in the 47 fm. level, which will be set at work next week; the shaft is now down 52 fms. 2 ft. 6 in. I am glad to state, that my very sanguine expectations with regard to the 47 fm. level west, on the north lode, are now being realised; we have a lode 2 ft. wide, 16 in. of which is good saving work, and still continuing to get better; you may safely calculate on a rich course of ore in this level before the end of another week; the lode is composed of peach, spar, mundic, and copper ore. The 47 fm. level east, on the course of the north lode, is gradually improving in appearance—this lode is 18 in. wide, with a leader of ore about 2 in. wide, and increasing in size—is composed of mundic, spar, flookan, and ore. The lode in the engine-shaft, at Rix Hill, is not quite so good as I expected to find it—is 4 ft. wide, composed of a greenish elvan, peach, spar, and tin. We have suspended all other operations on the course of these lodes, until the new steam stamps be erected, to return the tin already on the surface.—Jan. 15.

GALLOWAY.—The ground in the shaft sinking here has become very hard; and inasmuch as the lode is gone west—viz.: the north and south ones—we have considered it most judicious to follow the above lode, which will give facility to our sinking, and ease our cost to a given depth; the present feature of this lode is very inviting.—Jan. 15.

GREAT MICHELL CONSOLS.—The lode in the sump-winze is 6 ft. wide, containing mundic, fluor, peach, spar, and ore, yielding some saving work. In the 35 fm. level, west of the sump-winze, the lode is very large, having opened into it 7 ft. without reaching the south wall thereof; it is altogether of a most promising description, being composed of mundic, spar, peach, and can, with some rich ore intermixed throughout. We are dressing another parcel of ore, and hope to get about 50 tons for the next sampling. On the whole, I consider our prospects very encouraging.—Jan. 19.

HOLMBUSH.—The ground in the 132 fm. level cross-cut, south of the diagonal shaft, is much the same as last reported on. The lode in the 120 fm. level, west of the slide, is 12 inches wide, composed of spar and stones of ore; we expect to intersect the lead lode in this level within one week from the present time; the tribute pitch in the back of this level, east of the great cross-course, is still producing a fair quantity of copper ores. In driving east in the 110 fm. level, from the western part of the lead lode (about 2 fms.), we have intersected another, and, we think, the main part of the lead lode; it is 4 ft. wide, composed of quartz and stones of rich silver-lead ores; each end (north and south) is worth 10*l.* per fm., in ground that is very favourable for driving. The lode in the 100 fm. level south, is 3 ft. wide, composed of spar and stones of lead; we have just cut a branch, or lode, in this end, which, apparently, is running east and west, but as yet we can say nothing of its size and underlie; that part seen is composed of spar, mundic, blende, prior, and spots of copper ore; we shall be able to report more fully on it next week. The lead pitches throughout the mine, on the whole, are looking pretty well, and producing a fair quantity of lead ores. We have set two men to drive east from the western part of the lead lode, in the 90 fm. level south, to prove whether the eastern part, just intersected in the 110 fm. level, holds up so high, and lies in that direction; we shall prove it in the 100, by rising above the back of the 110, on the course of the lode. Our parcel of lead ores was purchased by Benj. Somers, Esq., at 18*l.* 11*s.* per ton, and its weight is 20 tons 4 cwts. 2 qrs. We expect the same to be shipped on or before Monday next, from the information we received from the ship agent.—Jan. 18.

KIRKCUDBRIGHTSHIRE.—Having had a breakage in our machinery since last report, but little has been done in the 50 fm. level end west. The lode in the 40 end west is 4 ft. wide—easy ground; the lead part of the lode not taken down, but presenting strong features. The lode in the 30 end is very wide—in fact, we have not found the north wall; it produces in our present driving 1 ton of lead per fm. The lode in Keith's shaft, about 3 fms. before this end, and (say) within 3 fms. of depth to this level, has a lode about 3½ ft. to 4 ft. wide—lode greatly improved the last few feet, should say 1½ ton per fm. of lead. The winze sinking under the 40 fm. level is in a hard rock, and the men working it have refused it at 7*l.* per fm.; it yields upwards of 1 ton per fm., and we shall be sure to let it even on tribute. Since the men were hindered in the 50 end, we put them to drive a piece in the 30 east, but I see no improvement in the lode. Speaking generally of our tributers, I think they are in good spirits; and taking our prospects as a whole, I feel confident we are approaching our more productive ground west, which at first invited our anxiety.—Jan. 15.

LAMHEROOE WHEAL MARIA.—The branch in the 30 fm. level is now near 2 feet wide, and greatly improved since Mr. Pegg was down. I am in great hopes of meeting with abundance of copper, when this branch falls into the K lode. We have six men driving in the 30 fm. level, and intend, on Monday next, to increase hands, and put eight instead of six, that they may work six hours, and relieve, &c.—Jan. 14.——The following report has been received from Capt. J. Tabb, dated Jan. 19:—"In the 30 fm. level, north of Davey's shaft, on driving upon the branch which Mr. Pegg saw when he was down, we find it to increase in size, and improve in appearance, as it approaches the main lode; this is very encouraging, and we hope, at its junction, to find something good. Our water is now fallen back to seven strokes per minute, and, should it not increase, we shall drive four fathoms per month. I cannot say the exact distance of the junction, as we have not yet sufficiently extended upon the main lode, to take a correct bearing, but, no doubt, by the end of next month, we shall come in contact with the lode and its branches. There is no other point requiring any remarks, without increasing hands, and putting four men to drive eastward, towards the great cross-course, as the lode looks promising in that direction.—N.B. We are doing nothing at engine-shaft; all work confined to driving at Davey's and sinking Orchard shafts."

LEWIS.—The lode in the engine-shaft, sinking below the 60 fm. level, is 3 ft. wide, producing some tin, and very kindly. The lode in the 60 end east, is 3 ft. wide, producing some tin, and very promising; the lode in the 60 east, on south branch, is 8 in. wide, and the floors on the north and south side make the end worth 11*l.* per fm.; the lode in the 60 end west, on south branch, is 1 ft. wide, worth 10*l.* per fm. The lode in the 50 east, on south branch, is 10 in. wide, worth 6*l.* per fm. The lode in the 40 east, on south branch, is 6 in. wide, worth 3*l.* per fm. All other places are much the same as when last reported. I almost fear you will, when you see our next cost, complain of some of the tributers getting so much money in the back of the 60, but it will by-and-bye prove for your benefit—it was in consequence of having a high tribute in order to drive a cross-cut south in search of a branch, which they found. I am glad to say I have raised a good parcel of tin, and now we have four pitches working on the same branch at 4*s.* 6*d.* We must do all we can to encourage tributers to cross-cut, and prove the side branches, as the work is of a small quantity, and very rich, which will just suit our present stamping machinery.—Jan. 15.

MENDIP HILLS.—The appearance of the lode in the 38 fm. level, south of shaft, continues much the same as last reported, being still very large, composed chiefly of flookan, and white spar, intermixed with a little iron, and particles of lead in places—ground favourable for driving. In the slag department, I am glad to inform you we have completed the tram-road, and commenced removing stuff to the floors on Thursday last, since which I have placed a few hands to clean some slags, and hope to get a small pile in readiness for the furnaces by the latter part of the week; the carpenters are at present engaged in making the necessary work for the washing floors.—Jan. 17.

SOUTH WHEAL MARIA.—The cross-cut, north of the engine-shaft, in the 20 fm. level, continues to yield more water, and it would appear as if we were to within about 3 fms. of the north lode; the ground is without any important alteration. We intersected a small vein, in the south cross-cut, this week, about 2 in. big, composed of mundic, spar, &c., with some good copper ore, without any underlay. This level is also yielding much more water than at any time previous; we have not yet reached the caunter lode; and the underlay, for 30 fms. in depth, may make it a greater length to drive to reach it than we at first calculated on.—Jan. 20.

SOUTH WHEAL TRELAWNEY.—Snell's engine-shaft is in course of sinking with nine men; ground a little harder than when last mentioned; water just the same as last report; down under adit about 22 fms.; we have had spots of lead in the shaft last week.

TAMAR SILVER-LEAD.—The lode in the engine-shaft is 2 ft. wide, composed of capel, mundic, and ore, but not rich for the latter. In the 160 end south, the lode is 1 ft. wide, poor at present; in the same level north, no lode has been taken down since last report. In the 145 end south the lode is 3 ft. wide, producing work of coarse quality. In the 135 end the lode is 2½ ft. wide, composed of can, mundic, and ore, of rich quality. The 115 end is in slidy ground, and unproductive. At the north mine, we have holed the rise from the 70 to the 60 fm. level; the lode in the 70 end is 2 ft. wide, composed of can, capel, and ore—saving work. In the winze, sinking in the eastern lode, the lode is 2 ft. wide, good work for silver-lead ores.—January 10.

TINCROFT.—Highburrow lode, in the 142 east of engine-shaft, continues large, and produces fair quality tinstuff. The lode in the 120, east of Martin's east shaft, is 4 ft. wide, worth 15*l.* per fm.; the stope in the back of this level is worth 16*l.* per fm. The winze which was sinking in the bottom of the 110 is now communicated to the 120; after a few days we shall be able to raise tinstuff more expeditiously, and at less expense; I now propose to put the men that were sinking the winze, to open a plat at Martin's east shaft, in the same level, in order to commence sinking the said shaft below that level as soon as possible, that it may be got in the 142 by the time that level gets forth; this is of great importance, as we have gone over about 80 fms. of good tin ground in the 120, the bottom of which level cannot be available as it should, till the 142 be driven forth and through the cross-course (which is 2 fms. to the east of Martin's east shaft), and the said shaft be communicated thereto—the pitches on this part of the mine continue much the same as usual. The 90 end west, on Chapple's lode, has very much improved since last report—it is now worth 30*l.* per fm.; the pitches on this lode continue to produce fair quality ore. In the north mine, the lode in the 100 east is small and unproductive, being very near the cross-course; beyond which, in the level above, we had a good lode; the lode in the 100 west is 20 in. wide, producing some good quality ore. The lode in the 90 west is 20 in. wide, worth 5*l.* per fm. The lode in the 80 east is 4 ft. wide, worth 8*l.* per fathom for tin—other places remain stationary. Palmer's shaft is being sunk on the east part of the south lode, which is at present unproductive in the shaft; the 80 west, on north lode, is worth 5*l.* per fm. The eastern winze, in the bottom of the 70, is worth 5*l.* per fm.; the lode in the western winze, below the 70, is 5 ft. wide, worth 15*l.* per fm., and very promising. The lode in the 70 end west is 3 ft. wide, worth 8*l.* per fm.; the stopes in the back of the 70 are worth 15*l.* per fm.—stoping by 12 men, at an average of 4*l.* 10*s.* per fm. The lode in the 60 west is small and unproductive. At Wheal Providence, the sumpmen are now in course of fixing the pitwork to the 20 fm. level, and hope to complete it in a few days, and get the water in fork to the bottom.—Jan. 17.

TRELEIGH CONSOLS.—Christoe's shaft, below the 110 fm. level, will be sunk to the 120, and we shall commence cross-cutting to the lode by the end of next week. In the 110, east of ditto, the lode is 2 ft. wide, with good stones of ore, with a better appearance. In Garden's shaft, below the 100 fm. level, we have been fixing a lift this week, but little done in sinking; in the 100, west of ditto, the lode is 3 ft. wide, with a small quantity of ore; in the 100, east of ditto, the lode is 20 in. wide, more promising, with good stones of ore. In the 90, west of ditto, the lode is 20 in. wide, not so good as last week—worth 5*l.* per fm.; in the winze, below the 90 west, the lode is 3 ft. wide, worth 8*l.* per fm. In the 80, west of ditto, the lode is 20 in. wide, producing good stones of ore, and very kindly. In the rise, above the 76 west, the lode is 18 in. wide, but little ore. In the 60, west of ditto, the lode is 2 ft. wide, with a more promising appearance, but not much ore. At Wheal Parent we have cross-cut north to the new shaft. We have set a new pitch in the back of the 80, west of Garden's, to four men, at 3*s.* in 1*l.*—Jan. 15.

WEST WHEAL JEWEL.—No lode taken down in the past week on Wheal Jewel lode. In the 42 fm. level, east of the little cross-course, on the south lode, the lode is 8 in. wide, unproductive. In the cross-cut, in the 30 fm. level, west of Quarry shaft, the ground is more favourable for driving. In the 20 fm. level, west of Quarry shaft, on Tolcarne tin lode, we have not cut the lode as yet west of the cross-course; in the deep adit, west of Quarry shaft, on the same lode, the lode is 15 in. wide, worth 6*l.* per fm.; in the shallow adit, west of Quarry shaft, on the same lode, the lode is 18 in. wide, unproductive; the stopes, in the bottom of the adit, east of Pryor's winze, on the same lode, the lode is 5 ft. wide, worth 35*l.* per fm. In the stopes, in the back of the 12 fm. level, west of Pryor's winze, on the same lode, the lode is 4 ft. wide, worth 30*l.* per fm.; the stopes, east of George's winze, in the bottom of the 12 fm. level, are worth 9*l.* per fm.—Jan. 17.

WEST WHEAL MARIA.—There is no important alteration in the cross-cut south in the 54 fm. level, in the past week; there is pretty much water issuing out of this end; and I am still of opinion, that we are not far from a lode or branch.—Jan. 18.

WHEAL ADAMS.—The ground in the 50 fm. level south continues favourable for driving, and congenial for lead. Since our last report we have intersected another small branch containing lead, but have not reached the flookan, which cannot be more than 4 ft. from the present end; as soon as we reach this, we propose extending a level south on the quartzose lode, and then to rise on it, in order to communicate with the 40, to lay open ground from one level to the other, which will be stoped at a tribute of about 5*s.* in 1*l.*; we can say nothing about the eastern lode at this level before we cut into the flookan. The ground in the 18 cross-cut is very favourable for driving; and the numerous small branches daily intersected, containing mundic and lead, are very promising indications. In the tribute department an improvement has taken place, which may be seen by referring to the setting-sheet accompanying this report. Although much before our usual time, we propose sampling about 30 tons of silver-lead ore next Saturday, which will be a superior parcel to the last, which parcel contained an unusual proportion of antimonial sulphuret of lead, containing less silver than it formerly produced. We have in one of the lead pitches, in comparatively unexplored ground, grey copper accompanied by quartz contiguous to the lead part; this copper contains silver as well as a small portion of gold; we have broken about 4 tons of it—and when it is brought to the surface and dressed, it shall be carefully assayed, and you shall know the results.—Jan. 18.

WHEAL BENNY.—Our cross-cut, in the 20 fm. level, north of Ford shaft, is driven about 4 fms. north of the great lode we cut in December last, and calculate we shall have from 2 to 3 fms. farther to drive to intersect the Ford lode. In my last it was there mentioned of the lode passed through, which is from 4 to 5 ft. wide in the above level (20), and when intersected in the shaft, 11 fms. deep, it was from 1 ft. to 14 in., and not looking so promising as at present. In conjunction with this we have several small branches falling into this lode in depth, and would recommend the sinking of Ford shaft 10 fms. deeper, which can be accomplished in about 4 months, and then drive north to intersect this champion lode, where all the branches will fall in at or before this given depth (30). Our cross-cut south is driven about 56 fms., and shall have 30 or more fathoms to drive to intersect the lode at the southerly part of the sett; when intersected, it will leave some 50 fms. backs. An air machine, worked by a small water-wheel, is erected, and will enable us to go, if required, 300 fms. We have other lodes in this part, which, by cross-cutting north and south can be seen at this depth.—Jan. 19.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

DEVON AND COURTENAY CONSOLS.—There is a good improvement here. In driving the 40 fm. cross-cut, north from the engine-shaft, towards the lode, about 4½ fms. from the shaft, they have intersected a lode 1 ft. wide—copper ore and mundic, very good work for copper; I should think it is worth 12*l.* per fm. This is not the main lode: I calculate there are three or four fms. more to drive in the cross-cut to reach it, and these are some of the branches come together, which were cut in driving the 30 from the shaft to the lode; but it looks well for the main lode; also, it will not be driven on for a week or two, before the cross-cut is extended farther towards the lode, to make room for another pare of men.

TIN VALE.—A rich lode was cut here on Monday in adit B, worth from 10*l.* to 20*l.* per fm., and they are only paying *twenty-one shillings* per fm. for driving.

MINING COMPANY OF IRELAND.—The following gentlemen were elected directors for the year:—Messrs. E. Atkinson, F. Barker, M.D., T. Bewley, F. A. Codd, J. Dawson, I. English, E. A. Gibbon, R. R. Guinness, sir R. J. Kane, M.D., J. Magee, T. Mooney, J. Murphy, J. Perry, T. Pim, and W. Stephens.

SHEFFIELD MINING COMPANY.—The works of this company are still progressing. The level or adit is now passing under the village of Eyam, and will ere long be in a state for progressing more rapidly.—*Sheffield Iris.*

COLLIERS' STRIKE.—The contemplated strike at Camlay coal pit, Dalmellington, wrought by the Messrs. Houldsworth, in consequence of a reduction of wages, was carried into effect last week. On Saturday terms were offered to the workmen, but refused on Monday, and in consequence the men were ordered to clear the pit. On Tuesday they were replaced by a party of colliers, said to be from Kier coal pits, who were carefully escorted to the work.—*Ayr Observer.*

DEVON AND COURTENAY CONSOLS.—At a meeting of adventurers, held at the Central Hall, Plymouth, on Tuesday, the 18th inst.,—PETER GLUBB, Esq., in the chair.—The captain's report was read; the accounts produced, examined, and passed; all shares on which three calls are in arrear directed to be forfeited to the general stock, for which purpose a special meeting is to be held in a month; the purser produced a statement of the liabilities of the mine, when a call of 10*s.* per share was made. The following report was read from Capt. N. Seccombe, dated the 16th inst.:—"Since our last general meeting, we have sunk our engine-shaft 2 fms. 2 ft. 3 in., making the total depth below the 30 fm. level 10 fms. 4 ft.; in this level we have cut a plat, and extended our cross-cut north from the shaft towards the lode 4 fms. 4 ft., in driving of which we intersected two branches, the first 6 in. wide, underlaying north, producing good stones of ore; the other is about 15 inches wide, producing also some very good copper ore, such as are here produced, and worth 12*l.* per fm., underlaying a little south. From the underlay of the lode seen in the 30 fm. level, we think there remains yet about 4 fms. to drive to intersect it, which will be completed in about three weeks from this time. The appearance of these large branches of ore inclining towards the lode, are indications which leave a favourable impression that, when they form a junction with the main lode, it will be productive of a good course of ore—in order to realise which, we have made the necessary preparations for sinking our engine-shaft to a deeper level, which will be commenced immediately. In the deep adit level we have driven 5 fms. 2 ft. on a lode, averaging from 18 in. to 2 ft. in width, composed of spar, mundic, and good stones of lead and copper ore, and also sunk in the bottom of the level 1 fm. 1 in., on a lode 10 in. wide, good work for lead." The following is from Capt. S. Seccombe, dated the 17th:—"I was underground on Friday last, and I consider the improvement that has taken place to be of very considerable importance. In the 30 fm. level cross-cut, north from engine-shaft, several small branches were met with, spotted with ore, in the 40 fm. cross-cut under; it appears these branches are together, and formed a lode of about 12 or 15 in. wide, and will produce about two tons of good ore per fm., with a beautiful killas on each side. If there is such an alteration in the branches only in 10 fms., may we not fairly calculate that a good improvement will also take place in the main or great gossan lode."

NORTH ROSKEAR.—By cost for October and November, 462*l.* 10*s.* 5*d.*—For ores sold, 501*l.* 5*s.* 11*d.*—balance, 39*l.* 15*s.* 6*d.*; add, in purser's hand, end of Sept., 211*l.* 3*s.* 1*d.*—leaves present balance, 250*l.* 18*s.* 7*d.*

TREVISKEY AND BARRIER.—The statement of accounts for October and November show—At *Treviskey:* Total receipts, 209*l.* 5*s.* 2*d.*—Expenses, 135*l.* 17*s.* 1*d.*; add previous balance, 11*l.* 9*d.*=75*l.* 17*s.* 1*d.*; deduct dividend of 6*l.* per share, declared 17th inst., 72*l.*—leaves 3*l.* 17*s.* 1*d.* now in hand. The following is the report:—"In Michael's shaft, sinking 2 fms. below the 248 fm. level, the lode is 2 ft. wide, worth 21*l.* per fm. In the 248, 12 fms. east of the above shaft, the lode is 3 ft. wide, worth 30*l.* per fm. The 236, 14 fms. east of the shaft, is worth 16*l.* per fm. In the 200, 37 fms. east of the shaft, the lode is small: here we are driving north. In the 188, 29 fms. east of the shaft, the lode is 2 ft. wide—worth 10*l.* per fm. In the 176, 37 fms. east of the shaft, the lode is 2 ft. wide, producing 1 ton of ore per fm. In driving the 30 south, we have not met with any lodes. We are sinking Williams's old sump-shaft 4 fms. below the 18 fm. level, but do not expect to intersect the lode until we reach the 30. We sampled last week, 310 tons of ore, and expect to raise 300 tons for January and February."—At *Barrier*:—Total receipts, 143*l.* 0*s.* 4*d.*—Expenses, 54*l.* 12*s.* 3*d.*; to which add previous balance, 8*l.* 2*s.*=89*l.* 10*s.* 1*d.*—deduct dividend of 7*l.* per share, declared the 17th inst., 84*l.*—leaves 5*l.* 10*s.* 1*d.* now in hand. The following is the report:—"We expect to raise from the pitches for January and February, about 60 tons of ore."

WHEAL MARY ANN.—At a general meeting of shareholders, held at the White Hart Inn, Liskeard, on Wednesday, the 19th inst.,—Capt. P. CLYMO, jun., in the chair,—the accounts for October and November months, showing a balance of 55*7l.* 3*s.* 4*d.*, were allowed and passed, and carried to the debit of the next account.—The following report was presented to the meeting:—"The lode in the 40 fathom level, south of the boundary, is 1 feet wide, and worth 5*l.* per fathom. The lode in the 30 fathom level, south of Barratt's shaft, is 1½ feet wide, and worth 10*l.* per fathom. The lode in the winze, sinking under the 15 fathom level, south of Barratt's shaft, is 2 feet wide, and worth 20*l.* per fm.; the lode in the 15 fm. level, south of Pollard's shaft, is 1½ ft. wide, composed of quartz, can, and some spots of lead; Pollard's shaft is sunk 12 fms. under the 15 fm. level, and will be down to the 30 fm. level, south of Barratt's shaft, in about a week; and we calculate to cut the lode in that level in a month from this time; the stopes are looking well. We sampled, yesterday, two parcels of ore—the crop computed 43 tons, and the silvery mundic and lead 37 tons, which we hope will realise from 800*l.* to 900*l.*; and, in conclusion, I beg to say, that I consider our prospects very flattering."

WHEAL TRELAWNEY.—A general meeting of shareholders was held at the Fountain Inn, Liskeard, on Tuesday, the 18th inst.—JOHN BRYANT, Esq., in the chair.—The accounts were presented, showing balance of 599*l.* 10*s.* 8*d.*, which were allowed and passed, and carried to credit of next account. The following report from Capt. John Bryant was read to the meeting:—"Phillips's shaft is sunk nearly 9 fms. under the 52 fm. level, where the ground is still favourable; and we hope to see the lode in the 62 fm. level at the end of March. The lode in the 52 fm. level south is large, chiefly composed of mundic, with can and lead, worth 10*l.* per fm.; the north end in this level is worth 8*l.* per fm.; the ground in both ends is rather hard at present; the stopes in the back of this level are looking very well, particularly the one to the north of the shaft. The lode in the 42 fm. level north, is not so large as it has been, but is tolerably good for lead, worth 8*l.* per fm.; the stopes here, and to the south of the shaft, are producing a fair quantity of ore. The lode in the 32 fm. level north is 18 in. wide—chiefly can and lead, worth 6*l.* per fm.; the stopes in the back of this level are producing a moderate quantity of ore, but rather hard at present. We have not as yet completed the work in Trelawney shaft, as expected, in consequence of the breakage of a pump, but hope to do so in two or three days, when we shall resume sinking under the 42 fm. level with all possible speed. The 42 cross-cut, west of Trelawney shaft, was holed yesterday to the 42 fm. level, north of Phillips's shaft on the lode, which will enable us to turn the water to Trelawney engine, and ease Phillips's. In the 22 cross-cut east, we have met with a small branch, composed of flookan and spar, with pretty much water issuing out of it; the ground is a little better for driving than it has been for some fms. At Vivian's shaft, in the 30 fm. level north, the lode is 2 ft. wide, composed of gossan, can, and lead—worth about 8*l.* per fm. On the 8th inst. we sold a parcel of lead ores, computed 72 tons, to Messrs. Walker, Parker, and Co., at 14*l.* 14*s.* per ton. The balance of the present audit, in favour of the company, is not so great as we anticipated; but this is occasioned principally from the depressed state of the lead market."

METHOD OF TRANSACTING MINING BUSINESS.

SIR,—In a leading article of your paper of last week, you take the opportunity, in noticing the case of Short and Mahoney, to make an attack upon "brokers or agents of mining shares," which, I think, upon reflection, you will allow neither justice nor reason warranted. You name certain practices in vogue, and then refer to those you deem respectable agents, to affirm or to deny them. Without a wish to arrogate to myself more respectability than many others, I will venture to reply to your article. I believe there is not a mining "broker," or one who calls himself so, in London. All are "mine agents and dealers," and as such publicly advertise themselves. You need not be told, Sir, that the mining market is extremely limited, the agents and those "principals" who go from office to office, buying of one and selling to another—in other words, "jobbing"—are the chief support of the market and *of the mines*, and without these the mining business would be far more limited than it is. Before, however, I state what I conceive to be the duty and the practice of a mining agent, I would make a few remarks upon the practice of share dealing in the Stock Exchange. In the house there are two classes of men—the brokers and the jobbers, or dealers. The former are "sworn" not to deal for themselves (this was the case with Messrs. Short and Mahoney in the metal trade); the latter continually buy and sell, and in a manner somewhat analogous to the system of blank transfers, which you so much deprecate—for instance, a principal sends to his broker to sell for him certain railway shares; he goes into the market, and sells them; instead of a transfer being given, a "ticket" is made out of the sale, which goes from dealer to dealer at different prices, according to the fluctuations of the market, until at stated periods (settling days) the transfer is made from the original seller to the last buyer, and the former often finds the consideration money paid by the latter is considerably more than he receives: this, however, is the legitimate and recognised business of the house; and if these dealers and jobbers did not buy and sell one to the other, there would be scarcely a market at all.

In mines, as I said before, the market is limited, and the chief business confined to the agents, or dealers; and blank transfers, as you state, often passed from one to the other, at various prices, in the same way as "ticket" papers—the only difference being, that transfers are always paid for on delivery, and "ticket" papers for railways once a fortnight. I do not mean to assert, that this system is free from objection, but surely not deserving the censure you give it, until you can extend the market, and have two distinct classes of brokers and jobbers. A few words, now, as to what mine agents conceive to be their duty. They have generally agents and correspondents in every part of Cornwall, to get the earliest and best intelligence from the mines. The latter they often have inspected at great expense, and solely to guide themselves and *their regular clients*, whom they keep constantly advised of all that interests them. I have myself repeatedly, upon improvements in prices, or in discoveries being made in mines, written 20 letters in a day to clients, advising them of such, and cautioning them not to be caught out of their shares by those who are ever ready to take advantage of early information. For these things, no agent makes any charge; he looks for remuneration for his time, trouble, and expense, solely in the agency allowed in buying and selling. In the open market every man is a dealer—buys as low as he can, and sells as high. This, I believe, is the practice throughout the world.

Again, mining agents have been more or less made dealers by their principals themselves. Many of the latter press sales upon them of shares they have no orders for, and do not want; but to oblige they often take them, and wait for changes in the market, and too often wait in vain. Cases, also, are not unfrequent, of parties buying shares of agents (who pay for them in the market), but who are left in the lurch by their clients never completing their contracts. I am a loser now of *several hundreds of pounds* in this way.

The late commercial crisis offers a few examples, that were not agents sometimes dealers, they would be better off; and if they have occasionally made 5*l.*, they have often lost 10*l.* It has frequently happened, and I am prepared, if required, to give you instances, of parties being in want of *immediate* cash. These go to an agent with a list of shares, which, if offered at once on the market, would greatly depreciate it, without finding buyers. The agent, perhaps, is induced to buy the lot at market prices, or a little below it, as the case may be, deducting an agency; and he keeps them to sell as the market will allow of it, and as orders may come in; but changeable as the wind are mines and markets, and the agent too often realises a considerable loss on many in the lot. I will venture, Mr. Editor, to give you a very considerable sum of money (not less than 100*l.*), if you will find me buyers for shares I now hold, at the prices I paid for them, and which, I will prove to you, were purchased to oblige principals during the monetary crisis, and which the extraordinary depression in the market prevented being again sold.

I am aware you may say, this is no justification for agents' jobbing in shares, but really I see no cure for it, unless you put a stop to mining business altogether. No one, more than myself, wishes to see mining carried on fairly and

openly. That I have laboured for this, you will do me the justice to allow; and in troubling you with this long letter, I have no other object than to explain what I think, as before stated, hardly deserves the censure you have given.—A MINE AGENT AND DEALER: *London, Jan.* 17.

THE DIVINING ROD.

SIR,—Observing that this subject has been referred to by Mr. Hunt, the talented lecturer at the London Institution (as appears from your Journal of the 15th inst.), allow me to remark, that there is a wisdom in the lessons of experience, however tinged with superstition. Whatever has happened once will happen again, under the like circumstances. I have seen lodes found with the divining rod, called the "*dowsing* rod"—the operator, or finder, being styled a *dowser*. It is a maxim, that there must be a cause to produce an effect. The common sense of mankind may have been perpetuated through ages by an alliance with superstition, but the jewel of common sense, however encased remains a jewel still. All scientific persons, who have made any experiments, on the subject, are agreed, that electricity and galvanism are to be found in lodes; indeed, Mr. Robert Were Fox, on one occasion, exhibited, at the Falmouth Polytechnic Society, a miniature metallic lode, formed by electrical action, in a room, during a certain period. All animals may be acted upon by electricity, and some, like the torpedo, are themselves electric. Having seen an unknown lode discovered beneath the erst unbroken green grass by the divining rod, it appears to me, that the *dowser*, or diviner, is acted upon by electricity, through his feet and hands, which are well known to be conductors (as I many times proved, whilst a friend of mine was drawing sparks from the face of my brother, for paralysis); and that some contortion of the muscles, or limbs, causes the tip of the two-legged rod to bend downwards. "The loud laugh which speaks the vacant mind," is very well in its way, as a sort of safety valve; but I have yet to learn that the miners of Cornwall ever think, like some of our men of science, of "going hand over hand up a rainbow, to see what the sun is made of!" ALFRED T. J. MARTIN.

Penzance, Jan. 19.

TIN VALE MINE.

RESPECTED FRIEND,—I have this day made a careful survey of this mine. Yesterday they cut an excellent lode of tin in adit B, 3½ feet in width, which is driven 60 fathoms. This lode is likely to yield large profits—say 10*l.* per fathom; the driving only costing 21s. per fathom. There are branches in adit A, let on tribute, at 8s. in the 1*l.*, and the tributers are well pleased with their bargains; one of them says he has ore ready for stamping. The stamps are up, and the wheel also, and leats are being cut to bring home the water-power—it is expected to be ready for use in 10 days. Adit A is driven for 25s. per fathom, being in decomposed granite; and this is likely to pay well, independent of the tributers who work the branches. There is a smiths' shop and a carpenters' shop, and iron ready for a tram-road; a house, wheel, and whim for the shaft, which is sunk 10 fathoms, over a lode 6 feet in width. This will be unwatered by the cross-cut now driving south, being one of the branches in adit A, and which is about 50 fathoms from the surface. This little mine is already in such a position, as to place it out of the list of speculations, being now morally certain to yield good dividends in a few months.

Liskeard 1st mo. 19. CHARLES SMITH (of Coggeshall, Essex.)

THE LAXEY MINES, ISLE OF MAN.

SIR,—Your correspondent at Liverpool, under date Jan. 11, if a shareholder of the Laxey Mines, would not need to be told he could have ascertained the reasons why no dividend for the past two years has been paid, had he been pleased to have attended the periodical meetings, to which all the proprietors, I believe, have been invited to attend, and where he would have learnt from the committee, the treasurer, or the chairman of the meetings, the causes of their long suspension. His letter, appearing just on the eve of a public sale (the 31st inst.), comes in so "questionable a shape" and moment, that it betokens, to me, rather the temper of a would-be buyer at depreciated prices, than otherwise; for, if he be a shareholder, he has had periodical opportunities (from Liverpool) to have visited the island, and personally attended the meetings of the company, seen the accounts, and gained information, at an insignificant cost of a few shillings. But what confirms my belief of the "questionable shape" in which this letter appears, is the very advertisement he refers to having these words:—"The mine can be seen upon application to Captain Rowe, the manager at the mines, who will give such information as may be required; and further particulars may be had from the receiver, Senhouse Wilson, advocate, Douglas."

Would a reply to his letter, by an anonymous correspondent, be probable to impart more correct information than by such direct parties? FAIR PLAY.

Bristol, Jan. 17.

THE KILBRICKEN MINES, IRELAND.

SIR,—Your observations on Mr. Crockford's last letter, and on that signed "A Shareholder," require some further remarks from me. You say, that "1000*l.*, besides a large premium on shares, seems, to your thinking, good pay," for "the party who undertook the trouble of forming the company." Apart from the real facts of the case, it would appear so; and, did I allow this point to pass unnoticed, my friends and the public would naturally infer, that I had put 1000*l.*, besides large premiums, into my pocket. Now, I have already told you, that notwithstanding having sold some shares at a premium (and now being told that I received 1000*l.* for my trouble, I again repeat), I am still a great loser by the concern; and will be bound, if called upon, to change places with any shareholder, and give him, or any other person, a very handsome sum, to place me in the same position I was in before I embarked in Kilbricken. The said 1000*l.* is represented by certain pieces of printed paper, called certificates, or shares, and have never been out of my writing-desk from the time I received them, which was not until the end of June last. I was on the point of declining this *saluable* amount of compensation, or commission: I wish I had done so—it would have saved me some money, and much responsibility. All the shares I sold, I had bought, and paid not less than 10*l.* for, and, in many cases, at a premium of 1*l.* at least on that price.

I presume, no person understanding the sale of large mining concerns, and getting up public companies, will consider that I ought to have had all the trouble (including the expense of going to Ireland) without some compensation, present or prospective, from the vendors. With any such private arrangement, I conceive the incoming adventurers had nothing whatever to do: nor do I believe that it is customary to publish such matters. They were not prejudiced thereby; they paid no more for their shares in consequence thereof; they had all they bargained for—viz.: a certain number of shares, at a certain price, in a certain mine, with 3000*l.* worth of materials, a capital of 3000*l.* to carry it on, and certain excellent prospects; as verified by Mr. Crockford's last letter, there was no attempt whatever made either to exaggerate or deceive. As they say, "a bad bal makes a bad captain," so the promoter of an unfortunate concern must not expect to come off free from blame. Such is my case. A very old friend, a shareholder, has accused me privately of being aware, at the time of bringing out the mine, of the low price paid to Mrs. Crockford for her interest. This I publicly deny. It was not until Mr. H. Crockford's letter appeared in your Journal of the 8th inst., that I was in possession of the fact.

I have an account of every transaction of my own, and I know all that has taken place relative to the disposal of shares by others, &c., in this concern, and shall be glad to clear up, as far as I am able, any "mystification" that may still exist in the mind of your correspondent, the "Shareholder," or any other interested person. Where duplicity has been practised, or attempted, great good, no doubt, results to mining generally, from expositions like the present; but in this case, where nothing of the sort was ever contemplated, I leave the public and yourself to judge how far that end has been attained.

Jan. 19. W. C. EVANS.

THE "MODEL MINE"—WHEAL TRESCOLL.

SIR,—The letter of your correspondent, "C. S. Richardson, C.E.," which appears in your Journal of the 15th inst., does him infinite credit; while a paragraph, in another column, conveys the information that he actually accomplished the object in view—that of obtaining subscriptions to the extent of 250*l.* in so short a period as five hours. I think this is not so extraordinary; as I have known as many hundreds, as the amount forms units, raised at a meeting not occupying so much time, and without the preparatory advertisements, which have appeared, and which led myself and others to expect something "vastly new;" but it appears from the silence of your correspondent, the projector and director, the concoctor and adjudicator, the counseller and adviser, &c., &c., that he is content in answering my letter to confine himself simply to the question, as to whether he can drive an adit level 137 fathoms at 3 fms. under the old men's workings, for the sum of 137*l.*, "timber included." I have no doubt but that, in the neighbourhood of Whitefriars-street, which is, I believe, in your locality, you understand something of timber, because, if I mistake not, when I last visited the metropolis, you were laying down some *wood* pavement, or *blocks*; and it would appear to me as if you had not removed the whole of them, although I was informed, through the public prints, that they had supplied granite in their stead. Now, as I am more used to the latter in our district, and our levels stand pretty firm, although, when requiring timber they are far more costly, I can only say that your correspondent can do a great deal of work for a very little money, if all that he says be true: but then what says he about the "modelling" of, or drawing out of the pockets of the adventurers about 1200*l.* as a bonus—and then what about paying costs of agents (*query*, what are they?), managing directors, clerks, the count-house maid, and the rest, with 150*l.* a year?

I tell ye, sir, it won't do. If mining is to be carried on, there must be good servants, and they must be paid; and, as to getting up a concern as a model, with a hundred or two of capital, I can only say—What have we been about all our lives down here? or what have you, gentlemen, in London, been doing, to spend so much money in Consols, Tresavean, and other mines I could mention, and lost sight all the time of this model scheme? It seems, though, that there are only four parties in it, and all the better; because, if there were more, I should have but a poor opinion of you. Now, I will not say any more; because, as your correspondent has got all his capital, he will have a capital joke; and, without any Latin—for I only picked it up in travelling—I will agree with him in that particular, that his adventurers will have a "quid to chew," of which they will be right glad to lose the flavour and recollection, without they go to work on the old system, and none of your new models.—A. A. H.: *Redruth, Jan.* 19.

DEFECTIVE METHOD OF SELLING TIN AND LEAD ORES.

SIR,—The system of selling copper ores at public ticketings, as practised in Cornwall, and at Swansea, is attended with great and manifest advantages. It produces among the buyers some degree, more or less, of useful and necessary competition, and a greater chance is afforded to the miners of obtaining fair prices for the ores.

The publication of the particulars of these sales is also especially useful, as furnishing data for information and comparison on the returns, state, and profits of the copper mines, which are of great importance to the mining and commercial interests of this country, and even of the world.

But, unfortunately, the system is totally different, and very defective, as respects the sales of tin and lead ores. No public competition exists, no regular account of sales is published; and hence, in all probability, both great loss to the miner, and a lamentable efficiency of most useful information on tin and lead mines to the public.

I am a mere looker-on, and may not be rightly informed on all points of these questions. But, at any rate, I never meet with such good and clear returns on the tin and lead as on the copper mines, and the great difference probably lies in the want of public sales for the products of the former.

This is an age of competition, and it is also an age of statistics: but in both these points, as, I fear, in many others, Cornwall is still half an age behind hand.

I beg leave, therefore, to appeal to Sir Charles Lemon, and to the other representatives of the county, on the importance, and even necessity, of returns being periodically obtained and published respecting the sales of tin and lead ores, whether the produce of Cornish or other mines, for the information of the mining and commercial public. And to the leading adventurers in such mines, I submit, whether measures ought not to be concerted without delay, for obtaining the establishment of regular public sales, in the same manner as those for copper ores. The adventurer, the mine agent, the smelter, the merchant, and the lord of the soil, would then be in possession of unquestionable data, of which they are now very much destitute. A LOOKER-ON.

P.S.—Why might not the tin be sold, like copper, in the ore, without being burnt? This process might, doubtless, be conducted much better and cheaper on a large scale by the smelter, than in small quantities, and on the different mines, as at present. Cornwall must try to keep pace with the rest of the world in the course of improvement, or she will long have to say— "Sequor, haud passibus æquis."

It would be very interesting, to be able to trace with certainty the exports of iron ores from Cornwall, and the quantities of streamed tin sold, as well as the silver, zinc, manganese, &c.—*West Briton.*

CONSOLS MINES.—The usual two-monthly meeting of adventurers was held at the mine on Wednesday last, when the accounts for November and December, as follows, were allowed:—By balance from last account, 1866*l.* 11s. 1d.; ores sold (less dues), 7903*l.* 5s. 8d. =9769*l.* 16s. 9d.—To cost and merchants' bills, 7968*l.* 4s. 9d.; balance in hand, 1801*l.* 12s.

CONTRACT FOR COPPER.—The commissioners for executing the office of Lord High Admiral of the United Kingdom of Great Britain and Ireland, we perceive, have given notice, that on Thursday, the 27th inst., they will be ready to treat with such persons, as may be willing to contract for supplying her Majesty's Dockyard, Chatham, with 100 tons of English tough cake copper, to be delivered within one calender month from the day of treaty; also, for 1500 tons of anthracite coal, to be delivered at Valparaiso, or at any port in Chili or Peru (as may be directed by the Commander-in-Chief on the station, or senior naval officer at Valparaiso), for the service of her Majesty's vessels.

THE ELECTRIC TELEGRAPH.—It is proposed by Messrs. Brett, of Hanover-square, to establish an international communication, *viâ* Dover and Calais, by their printing electric telegraph; the English and French Governments have conceded grants to the projectors, and it is understood that the French Minister of the Interior, M. Duchatel, expressed an ardent desire for the fulfilment of the undertaking, and liberally promised to give it his cordial support. The experiments made with this printing electric telegraph on land, have been at a distance of 146 miles between the points of communication, and are said to have been performed with the same rapidity and certainty, as at a distance of only a few feet.

PILBROW'S ATMOSPHERIC RAILWAY.—In the Court of Common Pleas, yesterday, the case—Pilbrow, the projector, *v.* the Company—came before the Court on demurrer to the declaration, and to several pleas. The first count of the declaration recited the Deed of Settlement; and that it had been agreed that the plaintiff should grant the defendants the exclusive right of exercising his two patents, in consideration of 15,000*l.* The second count set up another deed, whereby the plaintiff agreed to sell his patents to the defendants, when they should become incorporated as a company, for 15,000*l.*, and 4500 shares, on which 10*l.* per share was to be considered as paid in the concern. The pleas demurred to set up that the company was formed, and the Deed of Settlement obtained, by fraud and mispresentation of the plaintiff and others, and also several other matters.—The Court held the pleas to be bad, the declaration to be good, and gave judgment accordingly for the plaintiff.

SOUTH DEVON RAILWAY—ATMOSPHERIC SYSTEM.—In consequence of the state of the weather yesterday morning a delay of more than one hour occurred in the starting of the up train (atmospheric) from Newton; but this, which the enemies of the system will readily interpret a failure, only served, and that in a very forcible way, to illustrate its practical efficiency, for, by the increase of speed to and from Exeter, the lost time was completely regained. So regular have been the atmospheric trains to and from Exeter during the last week that it is becoming a generally adopted opinion, that in respect to the keeping of time the atmospheric system is superior to the locomotive.—*West of England Conservative*, Jan. 19.

RAILWAY COMMUNICATION BETWEEN GREAT BRITAIN AND THE EAST INDIES, BY WAY OF TRIESTE.—The regulations proposed at the conference on the 3d of December last, of the deputies of several of the German railways, and of the Austrian Lloyd, respecting a regular communication between Great Britain and the East, by German railway, have now been confirmed. The two main points are, the expediting of travellers, and that of couriers of the Austrian Lloyd. According to the first, travellers from London to any transmarine place, *viâ* Trieste, or *vice versâ*, may pay the total cost of their journey and luggage for the whole route. On making the payment, the travellers are furnished with a travelling book, valid for themselves alone, which contains as many individual coupons as there are railway administrations along the route, and this travelling book is available for the term of two months. The second point—the expediting of the couriers of the Austrian Lloyd between Trieste and London, and *vice versâ*, is effected by means of extra trains, twice a month, and which shall be ready to start at latest two hours after the arrival of the telegraphic or written despatch, announcing the approach of the courier, and shall be kept waiting in readiness, if necessary, 48 hours. These extra trains are to consist of two carriages and one luggage waggon, and, besides the courier, are to convey as many passengers as the space of the carriages and the stipulated rapidity will admit of—viz: one German mile in 10 minutes.

CDLEDONIAN RAILWAY.—Although, as stated in our last, the Government Inspector has reported most favourably of the state of the works, it will not surprise those who have any practical knowledge of such matters, that a line of such great extent as the Caledonian, requires a vast preparation and the utmost care before it is opened for general traffic, with a due regard both to the convenience and the safety of the public. At this season caution is peculiarly called for. The late variable weather has, we believe, in some degree affected particular portions of the line, and is a sufficient reason why a short delay should have been considered advisable. The interval, however, has naturally been taken advantage of to improve whatever might seem imperfect in any part of the works—this will no doubt save much expense and annoyance afterwards. The arrangements for conducting the traffic are making steady and satisfactory progress; at the Edinburgh terminus the booking offices, and all the other adjuncts of the station, are completed, and they appear to be exceedingly well adapted to the business of the company. In Glasgow similar arrangements are matured, and along the line the temporary stations are fitted up, and, infact, occupied by the officers of the company. We have every reason, therefore, to expect that the line will be opened in a few weeks at farthest; at the same time we may state that the directors have not yet fixed a day for the opening, which is no doubt the wisest course under the circumstances to which we have alluded above. Mr. Stewart, late of the Edinburgh and Glasgow Railway, has been appointed superintendent at Glasgow, and Mr. Mitchell, from the Great Western Railway, will occupy a similar post in Edinburgh. Both gentlemen are eminently qualified for the important duties committed to them. —*Scottish Railway Gazette.*

HUNT'S PATENT IMPROVEMENTS IN EFFECTING THE COMBUSTION OF INFLAMMABLE SUBSTANCES.—The *first* of these improvements consists in the employment of caps, plates, or discs, of perforated metal, or of wire gauze, which are placed on the top of the chimneys of gas, oil, camphine, or other lamps. The object of this arrangement is to enlarge the flame, and thereby to obtain more light from the consumption of the same quantity of combustible substances. In explanation of the *second* of his improvements, the patentee observes, that it has hitherto been the custom to make the Argand burner and the chimney-holder in several pieces, which are afterwards soldered together; but that he now proposes to cast the outer cylinder of the burner, and the rim and bottom of the chimney-holder in one piece, and the inside cylinder in another piece, and afterwards to solder these two pieces together, as usual; or to cast the inside cylinder, rim, and bottom of the holder in one piece, and then to solder on the outside cylinder; or, instead of casting the cylinders and holder, they may be stamped out. The patentee states, that he is aware that it has already been proposed to suspend, either above, or within, the chimney, pieces of metal, for the purpose of increasing the flame; and that his claims are, therefore, limited in respect to the first part of his invention to the application of caps, plates, or discs of perforated metal, wire gauze, &c., to the tops of lamp chimneys; and in regard to the second, to the casting, or stamping, of either the inside or outside cylinder in one piece, with the bottom and rim of the chimney-holder.—*Mechanics' Magazine.*

NATURAL BRIDGE IN ILLINOIS.—In Jackson county, Illinois, on the south side of Muddy River, near Murfreesborough, there is a natural bridge, which is something of a curiosity. It is thrown across the bed of the rivulet from buttresses of nearly equal size, worn out of the solid rock by the water as smoothly as if cut by a chisel. The bridge is a solid block of limestone, 84 ft. in the span of the arch from buttress to buttress, 22 ft. above the bed of the stream, 15 ft. wide, 7 ft. thick in the middle, and about 12 ft. thick at the lands resting on the two buttresses. The appearance of the whole is that of a modern stone bridge, except that the north end is a little lower and narrower than the other, though the inclination is not more than 2½ ft. in its length on the top. It is 120 feet long, and firmly and conveniently set into the opposite banks, and over it is a good road for horses.

LIVE STOCK IN THE UNITED KINGDOM.—From *M'Queen's Statistics of the British Empire*, we learn the enormous value of the live stock in the kingdom. It appears that there are 2,250,000 horses, of total value of 67,000,000*l.*, of which more than 1,500,000 are used in agriculture, and that there value is 45,000,000*l.* The number of black cattle in the kingdom is about 14,000,000 to 15,000,000, of the value of 216,000,000*l.*; the number of sheep 50,000,000, whose value is estimated at 67,000,000*l.*; and the extent of capital invested in swine is still more extraordinary, when we reflect how little it is thought upon or taken into account. The number of pigs of all ages, breeding and rearing, is calculatetd to be upwards of 18,000,000, which, taking one-third at 2*l.* each, and the remainder at 10*s.* each, gives a value 11,870,000*l.* as the capital invested in pigs alone, making the total amount of capital invested in the above species of agricultural stock 146,270,000*l.*

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Eleven o'clock.

Bank Stock, 9 per Cent., 198½
3 per Cent. Reduced Ann., 87¼ 8½
3 per Cent. Consols Ann., 87⅞ 8
3 per Cent. Annuities, —
3½ per Cent. Ann., 88⅝ 9
Long Annuities, 8⅞
India Stock, 10½ per Cent., 237
3 per Cent. Consols for Opg, 87¼ 8
Exchequer Bills, 1000*l.* 3d., 27 25 8 pm.
Belgian Bonds, 4½ per Cent., 89⅛
Dutch, 2½ per Cent., 53⅛ 4½
Brazilian, 5 per Cents., 82 3
Chilian, 6 per Cents., 90
Mexican, 5 per Cents., 18 ⅛
Spanish, 5 per Cents., 19½ 19
Ditto 3 per Cents., 29½ 9
Portuguese, 5 per Cents., 78
Russian, 5 per Cents., 109 8⅝

MINES.—The amount of business transacted during the week has not been very extensive, although we find inquiries for our paying mines well maintained. Several private negociations are in course of transaction, which we believe will be completed before our next.

The directors of Great Devon Consols has paid this week a dividend of 5*l.* per 1024th shares for the last two months. The mine is represented as looking remarkably well. In the 60 fm. level, east of Josiah shaft, they have cut through the slide, and found the lode very good.

The two-monthly account meetings of Treviskey and Barrier, held on Monday last, declared a dividend of 13*l.* per 120th share—*i. e.*, 6*l.* per share on the former, and 7*l.* on the latter—with the general appearances of the mine considerably improved since last account. We are rather surprised to find these shares quoted so low, which at present price will scarce reach to two years' purchase.

North Roskear meeting was held on the 12th, from which it appears a profit of 390*l.* was made on the two months' working; but, in consequence of the great fall in the standard of copper ore, the adventurers did not declare a dividend, which would have been the case, but for that great depression. Balance in purser's hand upwards of 2500*l.*

Wheals Trelawney and Mary Ann meetings were held this week (notices of which will be seen in another column); but in reference to the Mary Ann statement of accounts, we find a balance against the adventurers of 732*l.*—at the same time, it should be understood that the ores sampled on Tuesday, estimated to realise 800*l.* to 900*l.*, will liquidate that balance, and shows a profit of 175*l.* on the two months.

South Wheal Francis, Treleigh, Treviskey and Barrier, South Wheal Tolgus, Trethellan, &c., have been inquired for during the week.

The following shares have been transferred during the week:—Trelawney, Wheal Franco, Lamherooe Wheal Maria, Devon and Courtenay, Plymouth Wheal Yeoland, Trehane, Herodsfoot, Mary Ann, Great Rough Tor, West Basset, Treviskey and Barrier, Trethellan, Carwinning Hill, &c.

In foreign mines, the principal business appears to be in Australians, Kinzigthals, St. John del Rey, and Imperial Brazilians—more especially the two former.

During the week, the following arrivals of specie have been advised:—*Ex Hibernia*, at Liverpool, 90,000*l.* in specie; *ex American Eagle*, London Docks, 7 boxes and 1 keg, for different firms in the metropolis; and *ex Cantilla*, from Callao, $200,000 in specie.

HULL, THURSDAY.—The share market, in the face of increasing abundance and cheapness of money, remains inactive. North British stock is tolerably firm—thirds especially; Shropshire Unions are in slightly improved request; Northern Counties Union changed hands during the week, at nominal prices. Parties in the town here, interested in this last-named line, are taking steps to stay the further prosecution of the works, and we have no doubt good will come of it.

RAILWAY TRAFFIC RETURNS.

Name of Railway.	Lgth. Rway.	Present actual cost.	Price per share	Last Div.	*Traffic Returns* 1848	1847
Arbroath and Forfar	16	£179,939	26	4*p.c.*	£169	190
Birkenhead, Lancashire,& Chesh.	15	706,793	38½	—	575	481
Dublin and Drogheda	35	733,655	52	3½	691	618
Dublin and Kingstown	7¾	473,282	—	7	601	559
Dundee, Perth, & Aberdeen Junc.	47½	285,745	30	6	731	278
East Anglian (Lynn to Ely)	26½	908,892	12½	—	450	—
East Lancashire	24	1,207,490	21¼	—	956	—
Eastern Counties	202½	7,698,370	16	5	10005	8916
Eastern Union	50	979,926	45	—	1044	901
Edinburgh and Glasgow	53	2,375,745	44	6	3162	3364
Edinburgh and Northern	29	953,207	21	—	727	—
Glasgow, Paisley, and Ayr	64½	1,890,547	72	7	2012	2126
Glasgow, Paisley, & Greenock	23	838,964	17½	3	881	891
Gt. Southern & Western, Ireland	110½	1,876,326	25	—	1861	926
Great Western	269½	10,630,763	102	8	16687	15172
Kendal and Windermere	10½	147,001	23	—	89	—
Lancaster and Carlisle	70	1,291,913	55	—	1043	—
Lancashire and Yorkshire	92½	6,807,314	74½	7	8246	8278
London and North Western	428	20,010,467	152	9	34320	35410
London and Blackwall	4	1,146,289	5¼	¾	703	634
London, Brighton, & South Coast	152½	5,659,180	43½	4	5988	4996
London and South-Western	186	5,836,132	55½	9	6396	5408
Londonderry and Enniskillen	14½	160,013	16	—	166	—
Manchester,Sheffield,&Lincolnsh.	46	2,078,135	80	5	2059	1880
Maryport and Carlisle	28	424,417	—	3	559	447
Midland Company	402½	8,658,604	113	7	16588	15832
Midland Great Western (Irish)	36½	583,776	—	—	806	—
Newcastle and Carlisle	65	1,184,080	117	6	1888	2032
Norfolk	81½	1,375,633	89	6	1736	1316
North British	78	2,514,150	26½	5	1788	1196
Shrewsbury and Chester	17	591,158	21¼	—	538	245
South Devon	29	1,339,860	22	—	684	418
South-Eastern	165½	6,398,218	30⅝	6	6857	5985
Taff Vale	38	785,607	—	5½	1791	1322
Ulster	25	646,211	52	6	616	709
Whitehaven Junction	12	130,000	—	4½	153	—
York, Newcastle, & Berwick	236½	3,685,102	35	9	9529	7833
York and North Midland	230½	3,196869	76	10	6265	4774
FOREIGN RAILWAYS.						
Amiens and Boulogne	68½	573,338	—	4	978	—
Antwerp to Ghent (monthly)	31	——	—	—	1100	—
Belgian ditto	—	——	—	—	46247	43741
Dutch Rhenish	57½	——	2⅝	—	—	—
Northern of France	211	2,000,000	10½	4	11029	7382
Orleans to Bourges (Central)	107½	——	—	—	2277	—
Orleans to Tours	72	600,000	—	5	2746	2247
Paris and Orleans	82	2,011,720	47½	12½	7405	6144
Paris and Rouen	85	2,082,916	34½	9½	6217	9858
Rouen and Havre	59½	——	16⅞	4	2361	—
Strasburgh and Basle (monthly)	88	——	8	1½	6932	6621
West Flanders ditto	—	——	1⅜	—	1047	—

Total earnings for last week, £147,391, being an increase of £16,612 over last year.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Bate's West Hartley 18—Buddle's West Hartley 19—Chester Main 19—Carr's Hartley 19—Dipton Tanfield 15—Hedley's Hartley 18—Hasting's Hartley 19—Holywell Main 20—North Percy Hartley 18—New Tanfield 17—Original Pontop 16—Original Tanfield 15 6—Pontop Windsor 16—Ravensworth Pelaw 16 6—South Pontop 15—Tanfield Moor Bute's 16—West Hartley 19—West Wylam 18 6—Walker's Primrose 16 6—Wall's End Brown's Gas 16 6—Clennell 17 6—Clarke and Co. 17 6—Framwellgate 20—Killingworth 21 3—Ramsey 15—Eden Main 22—Belmont 22—Haswell 23—Hetton 23—Lambton 22 9—Russell's Hetton 22 9—Shotton 12—Stewart's 23—Whitwell, 20 6—Hudson's Hartlepool, 21 6—High Thornley 19—Trimdon 21—Adelaide Tees 22 6—Denison 21—Seymour Tees 22 3—Tees 22 9—West Pease 18—Cowpen Hetton 19—Howard's West Hartley Netherton 19—Sidney's Hartley 19.—Ships, 434; sold, 103.

WEDNESDAY.—Adair's Main 17 6—Bate's West Hartley 19—Buddle's West Hartley 19—Carr's Hartley 19—Dipton Tanfield 14 6—Hedley's Hartley 17 6—Hasting's Hartley 18 3—North Percy Hartley 19—New Tanfield 16 6—Newcastle Hartley 17—Original Tanfield 15—Pontop Windsor 16—Ravensworth Pelaw 16—South Pontop 14 6—South Peareth 16—Tanfield Moor 17 6—Tanfield Moor Butes 16—Wylam 17—West Wylam 18—Walker's Primrose 15 6—Wall's End Brown's Gas 15 6—Gosforth 21 6—Heaton 21—Hedley 21—Killingworth 21 3—Ramsay 14 6—Washington 19 6—Eden Main 22—Harraton Main 18—Belmont 22—Braddyll's Hetton 22 9—Bell 21 9—Haswell 23 3—Hetton 23 3—Jonassohns 21—Lambton 22 9—Leasingthorne 21 6—Merton 22 9—Shotton 22 to 22 3—Stewart's 23 to 23 3—Whitwell 20 6—Cassop 22 6—Caradoc 22 9—Hartlepool 22 9—Hudson's Hartlepool 21 6—High Thornley 19—Heugh Hall 21 6—Trimdon 21 6—Adelaide Tees 22 6—Denison 21—South Durham 21 6—Tees 22 9—Unwick 18 3—Whitworth 16 3 to 17 6—Blengwawr 23 6—Sidney's Hartley 18 3—Snapethorp 19—Ships, 351.

FRIDAY.—Adair's Main 17 6—Bate's West Hartley 19—Buddle's West Hartley 19 3—Carr's Hartley 19 3—Chester Main 18 6—Dipton Tanfield 14 6—Hedley's Hartley 17 3—Hasting's Hartley 19—North Percy Hartley 19—North Pontop 14 6—Newcastle Hartley 17 6—New Tanfield 16—Pontop Windsor 15 6—South Pontop 14 6—South Peareth 16—Tanfield Moor 17 6—Tanfield Moor Butes 15 6—Townley 17—Wylam 17—West Wylam 17 3—Walbottle Hartley 17—Wall's End Acorn Close 20 9—Bewicke and Co. 21 6—Brown's Gas 16—Gosforth 21 6—Hotspur 20 3—Hedley 21 6—Hilda 20 6—Killingworth 21 3—Northumberland 20 3—Eden Main 21 3—Harraton Main 18—Belmont 22—Braddyll's Hetton 22 9—Bell 21 9—Framwillgate 21 6—Haswell 23 3—Hetton 23 3—Lambton 22 9—Lumley 21—Russell's Hetton 22 9—Shotton 22 3—Stewart's 23 3—Caradoc 22 9—Hudson's Hartlepool 22—High Thornley 19—Heugh Hall 21 6—Cowndon Tees 21—Tees 22 9—Whitworth 18—Blangwaur 23 6—Derwentwater Hartley 18 9—Old Haigh Moor 18—Robin Hood 18—Snapethorp 19 3—Cliffe 19 3.—Ships, 294; sold, 111.

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending Jan. 15, was 18,732; amount of money, £78 1s. 0d.

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—
Old gold and silver to Havre £380

CURRENT PRICE OF GOLD AND SILVER.

Foreign gold, in bars ....per oz.	£3 17 9	New dollars.....per oz.	£0 4 9½
„ Portugal pieces....	0 0 0	Silver in bars (standard)	0 4 11½

LATEST CURRENT PRICES OF METALS.

LONDON, JANUARY 21, 1848.

	£	s.	£	s.	d.
IRON—Bar o. Wales..*ton*	0	0—	7	0	0
..London ..	0	0—	8	5	0
Nail rods „	0	0—	9	0	0
Hoop(Staf.) „	0	0—	9	15	0
Sheet „ „	0	0—10	15	0	
Bars „ „	0	0—	9	5	0
Welsh cold-blast foundry pig ..	4	0—	4	10	0
Scotch pig *b*, Clyde	2	8—	2	10	0
Rails, average	7	0—	7	10	0
Chairs	0	0 -	4	17	6
Russian, CCND *c*..	17	10—18		0	0
„ PSI	0	0—	——		
„ Gourieff	0	0—	——		
„ Archangel	0	0—13	10	0	
Swedish *d*, on the spot	11	0—11	5	0	
„ Steel, fagt.	0	0—16	5	0	
„ „ kegs *e*	0	0—14	0	0	
COPPER—Tile *f*	0	0—97	0	0	
Tough cake	0	0—98	0	0	
Best selected	0	0 101	0	0	
Ordin. sheets, *lb*...	0	0—	0	0	11

	£	s.	£	s.	d.
COPPER—Ord. bottoms ..	0	0—	0	0	12
YELLOW METAL SHEATHING	0	0—	0	0	9½
TIN—Com. blocks *g*...*cwt.*	0	0—	4	2	0
„ bars	0	0—	4	3	0
Refined	0	0—	4	6	0
Straits *h*	0	0—	3	18	0
Banca	0	0—	4	4	0
TIN-PLATES—Ch., IC *i*, *box*	0	0—	1	8	0
„ IX ...	0	0—	1	14	0
Coke, IC	1	3—	1	4	0
„ IX	1	9—	1	10	0
LEAD—Sheet *k* .....*ton*	0	0—19		0	0
Pig, refined	18	15—19		0	0
„ common	0	0—17		15	0
„ Spanish, in bd.	0	0—17		0	0
Red.....	0	0—19		10	0
Dry White.....	0	0—24		0	0
Shot (Patent).....	0	0—20		10	0
SPELTER—(Cake) *l* on spot	19	15—20		0	0
„ for arrival	0	0—19		5	0
ZINC—(Sheet) *m* export.*	0	0—	27	0	0
QUICKSILVER *n* .....*lb.*	0	0—	0	4	6

IRON (Welsh) is steady as regards price, but the demand is very languid: there is rather more inquiry for Staffordshire, but as the men continue out on the strike, neither masters nor dealers will sell beyond their existing stocks. In foreign nothing doing.—Spelter is firm, but no sales have been made for the last fortnight.—Other metals remain as per last week's *Mining Journal*, and the market generally is dull, without, however any indication of lower prices.

GLASGOW, THURSDAY.—There has been a feeling of firmness amongst the holders of pig-iron in our market this week; the business done, however, has not been large. A few sales have taken place at 49s. for mixed Nos., and 50s. for No. 1—cash. The market seemed heavy to-day—no business doing.

BIRMINGHAM.—The quarterly meetings of the trade are now concluded, and the reduction of prices, declared by the manufacturers of South Staffordshire, has been adopted and confirmed by those of South Shropshire; but it is worthy of remark, that a feeling exists in certain quarters, that the reduction is quite as great as the prospects of the trade can justify. The men throughout the district appear resolute to maintain their strike, and, as is usual in such cases, there is no deficiency of busy persons to goad them on. We regret to state, that Messrs. James Batson and Son, iron and coalmasters, of Dudley Port and Tividale, having become unable to meet their engagements, a fiat in bankruptcy has been issued against them, and they will surrender in the course of this week. It was suspected that, in connection with the suspension of the above house, three other firms would have been involved, and the failures exceedingly heavy. It is said, however, arrangements have been entered into which confine the failure to the above firm, and the obligations, fortunately, to under 10,000*l*.—*Birmingham Advertiser.*

The circular of Messrs. Stitt, Brothers, of Liverpool, just issued, gives a review of the metal trade for the past year, After alluding to the disastrous circumstances which have accompanied our "monstrous outlay for railway undertakings," they observe:—

"The metal trade was not so early, nor has it been so seriously, affected as the other branches of industry, and throughout the year prices have been steady, and in general remunerative. In consequence of the immense demand for railway purposes, and comparatively high price which has prevailed for some years, the production has fallen short of the requirements; and stocks, both at home and abroad, have been reduced to a very low point. Owing, however, to the inability of the railway companies to proceed with their works, and to the interruption to both home and foreign trade by the derangement of monetary affairs, the prosperity of the iron trade received a severe check towards the close of the year, and prices have declined considerably in consequence.

"Manufactured iron was in extensive demand until very recently. Rails were purchased largely, both for home consumption and export, and occupied many of the works, almost to the exclusion of other descriptions of iron. The demand, however, fell off very much about October; and the price, which at the beginning of the year was 9*l*. 10s., has declined to 7*l*. 10s. per ton. Bars have commanded an equal price, from the limited production, but have declined in like proportion. Staffordshire bars, hoop, and sheets, have been in active demand; but that district has also been at last affected by the depression: and, at the quarterly meeting of the trade, held on the 14th inst., at Birmingham, a reduction of 40s. per ton, from the highest prices of last quarter-day, was agreed upon. In consequence of a strike of the workmen against a reduction of their wages, little iron has been made for some time in Staffordshire and Shropshire (72 furnaces, out of 164, are said to be out of blast); and, should this continue much longer, the deficiency of supply may prevent this decline from being generally submitted to, and, at present, few parties will sell subject to it.

"Our exports to the United States have increased very much during the past year, especially in the finer descriptions of iron—affording a gratifying proof of the advantage derived from freeing trade from hurtful restrictions. The shipments from Wales direct to the States, have also been much in advance of any former year. To India, our exports have again been light. As the stocks are now very low, we may expect considerable shipments will be made there, so soon as an active business can be resumed with that country. The following are the exports of iron from Liverpool in 1846 and 1847, to New York, Boston, and Philadelphia, collectively:—

	Rails.	Bars.	Hoops and Sheets.
In 1846 .....*Tons*	12,514	12,807	1,686
In 1847	12,635	37,543	7,195
Increase .....*Tons*	121	24,736	5,509

"Scotch pig-iron has now become an important article in the metal trade, the make having increased within a few years, since the introduction of the hot-blast, from about 40,000 to upwards of 500,000 tons per annum. The price in the early part of the year was 75s. to 77s. 6d. per ton, but under the influence of the pressure in the money market, causing forced sales of speculative parcels, it continued with little interruption to decline throughout the year, until it reached the present figure of 46s. 6d., which is lower than at any period since January, 1844. Whilst the make has not materially increased, the stock has declined about 55,000 tons. English copper advanced from 10d. to 11d. per lb. early in the year, which has been well maintained.

"Tin-plates have been very dull throughout the year; and, as the price is very unremunerative, the make has been diminished considerably, so that stocks are light. The exports to New York, Boston, and Philadelphia, have been only 137,553 boxes, against 193,400 boxes in 1846." Finally, it is remarked—"As the prostration of the iron trade is owing mainly to the suspension of the enormous demand for railway works, we can only expect a decided improvement in connection with the resumption of these works, but all the companies are so much in arrear for work already done, and goods supplied, that we do not expect that they will get funds, either by loans or calls, to enable them, for a good while, to contract fresh obligations."

Looking at the present easy state of the money market, however, it is to be apprehended that this last inference may prove erroneous.

THE MINING DISTRICTS—STOURBRIDGE.—We regret to state that a large proportion of the colliers and men employed at the furnaces and ironworks of the district are still out. Almost daily blast furnaces are blown out for want of mine and coal. At several works attempts at compromise have been made. The original notices were for a reduction of 10 per cent., but, in most cases, the masters have offered to accept a reduction of 10 per cent., and in some cases of 5 per cent. The offer has not, in any case (that we are aware of), been accepted; and, were it not for the collieries worked by Lord Ward being at work, the supply of coals even for household purposes could not be obtained. The agents of Lord Ward have not given notice of a reduction, and consequently are at work, and contribute to the support of the men out on strike. This, in addition to the funds belonging to the union, will, in all probability, enable the men to hold out for some time. At a meeting of the coal trade, held on Tuesday, at the Talbot Inn, Stourbridge, it was unanimously agreed that a reduction of 1s. per ton upon coal, and 6d. per ton on all slack, except fine, which remains as before, should take place from Jan. 1, 1848.—*Worcester Chron.*

THE STRIKE IN SOUTH STAFFORDSHIRE.—We regret to have most unsatisfactory news from Birmingham—the strike now assuming a more unfavourable appearance. The men are being acted upon by parties, who are interested only in the prolongation of the melancholy differences, which have already had so alarming an effect. On Thursday and yesterday, bills were extensively circulated, cautioning the men to avoid bringing themselves into collision with the authorities, and not to commit any excesses. A public meeting was held at the Queen's Head, Commonside, last night, which was very numerously attended, and, as we are informed, a resolution passed, that a *general standing out* take place. Capt. Roberts, with a large police force, was in attendance, and the magistrates have issued notice, that a strong military and police force are in the district, ready to protect those willing to work.

NEW PATENTS.

C. Crane, Stratford, Essex, manufacturing chemist, and J. T. Jullion, of the same place, analytical chemist, for improvements in the manufacture of certain acids and salts, and a new apparatus applicable to the said improvements.

S. C. Lister, Esq., of Manningham Hall, Bradford, for improvements in stopping railway trains and other carriages, and generally where a lifting power or pressure is required.

J. Hickman, Birmingham, for improvements in the means of constructing and connecting parts of bedsteads, couches, and other articles of furniture to which such improvements may be applicable, and also in the means of attaching knobs or handles to drawers, doors, and other parts of furniture.

W. Newton, Chancery-lane, Middlesex, civil engineer, for improvements in the manufacture of sugar from the cane. (Being a communication.)

J. F. Bateman, Manchester, for certain improvements in valves or plugs for the passage of water or other fluids.

T. R. Sewell, Carrington, Basford, Nottingham, for improvements in preparing flour.

J. C. Robertson, Fleet-street, London, civil engineer, for certain improvements in the manufacture of textile fabrics, stuffs, and tissues, and of certain new products obtained by the aid of such improvements. (Being a communication.)

J. Duncan, gent., Brentwood, Essex, for certain improvements in tanning of hides.

J. Gilmore, Lieutenant in the Royal Navy, for certain improvements in ventilating ships and other vessels.—*Mechanics' Magazine.*

GAS-LIGHT AND COKE COMPANIES.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
5,000	British (London)	£18	£1*	£17½
5,000	Ditto (country)	19	1½*	23½
1,000	City of London	100	10	290
1,000	Ditto New	100	10	290
5,000	Equitable	50	2½	38
2,000	European	20	1½	18
7,000	Gas-Light and Coke Chartered Co.	50	6	55½ 56½
5,000	Ditto New	10	6*	11 11½
9,000	General United Gas-Light Company	50	2	17½ 18½
2,000	Imperial	50	6	80½
400*l.*	Ditto Debentures	100	4	100
4,000	Imperial Continental	35½	4½*	54 56
1,000	Ditto New	28	4½*	61
4 500*l.*	Ditto Debentures	100	5	100 102
2,000	Independent	40	6	64
3,000	London	50	6	49 50
1,000	Ditto	50	5	48
2,000	Phœnix, or South London	43	5	34
1,000	Ratcliff	80	5	80
5,000	South Metropolitan	25	6	30 32

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwessin	7 ..	10
512	Albert Consols	1 ..	2½
1024	Alfred Consols	4½ ..	30
256	Alternnm Consols.	2 ..	15
235	Andrew and Nangiles	28½ ..	11½
10000	Ayrshire Iron Company	5 ..	1½
1624	Balleswidden	9 ..	18
128	Balnoon Consols	25 ..	25
10000	Banwen Iron Co.	2 ..	—
1000	Barristown	4½ ..	10
4000	Bedford	2½ ..	3½-¾
128	Besore Lead Mine	14 ..	10
315	Birch Tor Tin Mine	24½ ..	—
8000	Blaenavon	50 ..	23
100	Botallack	175 ..	80
120	Brewer	5 ..	7
10000	British Iron, New, regis.	10 ..	11-11½
—	Ditto ditto, scrip	10 ..	12
128	Budnick Consols	52½ ..	40
128	Burthy	20 ..	21
100	Bwich Cwmerfin	20 ..	—
128	Callestock	17 ..	30
1000	Callington	19 ..	32
20000	Cameron's Steam Coal	4 ..	3¾-½
256	Caradon Copper Mine	9¼ ..	1
256	Caradon Mines	22½ ..	17
256	Caradon United	24 ..	5
256	Caradon Wh. Hooper	21 ..	12
1000	Carn Brea	15 ..	105
2048	Cascade	1 ..	2
112	Charlestown	220 ..	30
166	Clevelnnd	9 ..	5
512	Coatlithe Hill	¼ ..	2
1900	Combmartin	7½ ..	3
500	Comblawn	5½ ..	6
128	Comfort	45 ..	90
256	Condurrow	20 ..	34
2560	Cook's Kitchen	14 ..	2
2048	Coombe Tin Mine	4½ ..	2
1000	Coombe Valley Quarry	2 ..	3
1000	Copper Bottom	1 ..	1
1024	Cosheen	4½ ..	20
240	Craddock Moor	15½ ..	15
128	Creeg Braws	120 ..	100
500	Cubert Mine	12½ ..	15
2048	Dartmoor Consols	3 ..	2
300	D.Prior & Buckfastleigh	14 ..	26
7500	Demelza Mines	2 ..	2
7100	Derwent	8½ ..	5
1024	Devon & Courtenay Con.	7½ ..	2
1024	Devon Great Consols.	1 ..	210-15
1000	Dhurode	2 ..	5
186	Dolcoath	30 ..	50
2560	Drake Walls	4 ..	4
10000	Durham County Coal	45 ..	9
3000	Dyfngwm	10 ..	12½
256	East Alvenney	10 ..	25
112	East Caradon	42 ..	42
2048	East Crowndale	5½ ..	5
512	East Combe Silver-Lead	6½ ..	6½
128	East Pool	5 ..	20
100	East Relistian	22 ..	40
—	East Wheal Albert	1 ..	3
94	East Wheal Crofty	125 ..	280
256	East Wheal Fortune	2 ..	3
128	East Wheal Rose	50 ..	1200
2048	East Wh. Rough Tor	¼ ..	2
—	East of Scotland Iron Co.	2½ ..	¾
123	East Wheal Seton	14 ..	15
256	Elborough	1½ ..	2
256	Exmoor Wh. Eliza	3½ ..	6
512	Fowey Consols	40 ..	45
6400	Gadair	2 ..	2
20000	Galvanised Iron Co.	10 ..	9½
10000	Gen. Mining Co. for Irel.	2 ..	1½
2048	Georgia Tin Mines	1½ ..	1½
256	Gonamena	31½ ..	45
128	Goonvrea	4 ..	1½
244	Grambler & St. Aubyn	— ..	10
100	Great Consols	1000 ..	400
256	Great Callestick Moors	22 ..	25
2560	Great Michell Consols	1½ ..	3½
256	Great Resugga Moor	7 ..	6
512	Gt. Wh. Rough Tor Con.	13½ ..	25
100	Grogwinion	5 ..	—
256	Gwinear Consols	7 ..	20
1000	Harrowbarrow Old Mine	8½ ..	2
6000	Heigniston Down Con.	½ ..	2½
256	Herodscombe	4½ ..	4½
256	Herodsfoot	16 ..	18½
10000	Hibernian	12½ ..	1⅝
239	Hobb's Hill	6 ..	3
1000	Holmbush	19 ..	11
827	Kirkcudbrightshire	5½ ..	6
2048	Lamheroge Wh. Maria	11 ..	4
128	Lelant Consols	90 ..	60
160	Levant	— ..	90
1000	Lewis	15 ..	6½
1000	Llwyn Malees	5 ..	—
3600	Llynvi Iron	50 ..	50
256	Lostwithiel Consols	15 ..	15
6000	Marke Valley	10 ..	3
5000	Mendip Hills	2½ ..	1½
5000	Merionethshire Slate & Slate Slab Co.	1½ ..	2
20000	Mining Co. of Ireland	7 ..	6½
256	New East Crowndale	3½ ..	3½
128	North Fowey Consols.	30 ..	30
100	North Pool	45 .	370
70	North Roskear	10½ ..	310
256	North Wh. Abraham	1 ..	1
262	North Wh. Leisure	1½ ..	2
128	North Wh. Providence	2½ ..	3
15000	Northern Coal Co.	23 .	2
128	Par Consols	— ..	1000
4000	Pennant	1½ ..	2½
100	Penrhiw	30 ..	65
1280	Perran St. George Un.	13 ..	20
128	Perran Wh. Virgin	9½ ..	15
512	Plymouth Wh. Yeoland	4½ ..	21
256	Polsaith Consols	4½ ..	7
112	Providence Mines	35 ..	45
10000	Rhymney Iron	50 ..	20
10000	Ditto New	7 ..	6½
256	Rose Consols	10 ..	2
1000	Rosewall Hill	1 ..	5
256	Rosewarva Mines	— ..	12
—	Shotts Iron Company	50 ..	55
2500	Silver Valley	5 ..	2
1100	South Dolcoath	3 ..	2½
128	South Caradon	10 ..	450

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
256	Sth. Friendsh. Wh. Ann	16 ..	25
200	South Harvannah	10 ..	25
256	South Tolgus	7½ ..	40
256	South Trelawney	20 ..	8½
128	South Yeoland	16½ ..	20
128	South Wheal Basset	110 ..	95
256	South Wh. Betsey	2½ ..	5
124	South Wh. Francis	160 ..	200
256	South Wh. Hope	— ..	5
1000	South Wh. Maria	2½ ..	2
256	South Wheal Rose	11½ ..	1
256	South Wh. Sophia	4 ..	4½
10000	Southern & Western, Irish	2 ..	4
280	Spearne Moor	30 ..	40
256	St. Austell Consols	9 ..	10
94	St. Ives Consols	— ..	320
128	St. Michael Penkivel	5 ..	10½
1000	Stray Park	43 .	20
9600	Tamar Consols	3 ..	4
1024	Tavy Consols	4 ..	8
6000	Tincroft	7 ..	8
1000	Tin Vale	2 ..	4
128	Tokenbury	143½ ..	10
256	Trehane	2 ..	24-5
5000	Treleigh Consols	6 ..	3½-¾
2000	Trenance	2 ..	50
96	Tresavean	10 ..	250
120	Trethellan	5 .	16
120	Treviskey and Barrier	130 ..	135
288	Trevean	1½ .	25
128	Trewellard	12 ..	26½
100	United Mines	300 ..	350
256	Wellington Mines	15 ..	30
128	West Basset	45 ..	30
256	West Caradon	20 ..	120
128	West Cargoll	2 .	12
512	West Fowey Consols	40 ..	15
256	West Providence	9 ..	25
200	West Seton	40 .	150
—	West of Scotland Iron Co.	210 .	210
120	West Trethellan	5 ..	35
256	West United Hills	6½ ..	1
256	West Wh. Friendship	9 ..	12
3845	West Wheal Jewel	11 ..	1½
2560	West Wh. Maria	2½ ..	1½
2560	West Wheal Rough Tor	¼ ..	2
256	West Wheal Shepherd.	5 ..	2½
256	West Wheal Tolgus	21½ ..	5
256	West Wheal Treasury	19 ..	10
5200	Wicklow Copper	5 ..	11½
184	Wheal Adams	51 ..	10
1000	Wheal Agar	— ..	10
256	Wheal Albert	10 ..	8
128	Wheal Acland	13 .	2
256	Wheal Allen	2 ..	5
237	Wheal Anderton	18 ..	25
128	Wheal Ann	— ..	50½
512	Wheal Ann, Bridford	1 ..	2
512	Wheal Anna Maria	— ..	5
1024	Wheal Ash	4½ ..	8
120	Wheal Bal	5½ ..	20
2560	Wheal Barbara	1½ ..	4-5
256	Wheal Benny	10½ ..	6
256	Wheal Blencowe	21 ..	8
256	Wheal Bucketts	20 ..	5
256	Wheal Calstock	3 ..	8½
136	Wheal Clifford	190 ..	190
1024	Wheal Coad	½ ..	1
128	Wheal Courtenay	— ..	20
6000	Wheal Curtis	2½ .	3-3½
256	Wheal Dyke	12 ..	13
256	Wheal Fortescue	6½ .	5
512	Wheal Fortune Consols	3½ .	6½
2048	Wheal Frederick	2 ..	2
388	Wheal Franco	27 ..	28
128	Wheal Harriet	45 ..	50
256	Wheal Jane	21 ..	15
256	Wheal Louisa	8½ .	8
112	Wheal Margaret	79 ..	250
512	Wheal Mary Ann	5 ..	17
256	Wheal Mary Consols	38 ..	25
210	Wheal Prospect	4 ..	7
120	Wheal Reeth	27 ..	80
128	Wheal Rose	60 ..	45
2048	Wheal Samson	½ ..	20
99	Wheal Seton	214 ..	1100
256	Wheal Sisters	29½ ..	20
256	Wheal Sophia	5½ ..	10
128	Wheal Spearne	10 ..	75
128	Wheal St. Ann	9 ..	15
260	Wheal Trelawney	7½ ..	95
256	Wh. Tremaine (St. Ervan)	4½ ..	20
256	Wheal Tremayne	35 ..	25
128	Wheal Trew	20 ..	21
256	Wheal Trevenna	3 ..	4
92	Wheal Tryphena	140 ..	265
128	Wheal Venland	13½ .	4
256	Wheal Vlow (Perranz.)	⅜ ..	⅜
184	Wheal Vyvyan	— ..	60
256	Wheal Williams	6 ..	12

FOREIGN MINES.

Shares.	Company.	Paid.	Price.
5000	Alten Mining Company	14½ ..	3½-⅜
15000	Asturian Mining Co.	11 ..	3½
20000	Australian	2½ ..	3½-¼
10000	Anglo-Mexican Co.	100 ..	2
12374	Ditto Subscription	25 ..	2½
6000	Barossa Range	¼ ..	2½
3000	Bolanos	150 ..	3½
2000	Ditto Scrip	15 ..	3½
12000	Brazilian Imperial	23 ..	7
10000	Cobre Copper Co.	40 ..	18
8500	Colombian Co. regis.	55 } 5½ }	1
5000	Ditto Scrip		
5000	Copiapo Mining Co.	14 ..	2½
10000	General Mining Ass'n.	20 .	13½
5000	Kinzigthal Mining Ass.	2 ..	4½-5
20051	Mexican Company	59 ..	—
2000	Mexican & South Amer.	7 ..	1⅝
5000	Mocambua & Cocaes	30 ..	6
29320	Rl. del Monte, regis. } Ditto unregistered }	28½ ..	1⅞
	Ditto Red Debentures	— ..	10
	Ditto Black ditto	— ..	8
	Ditto Loan Notes	150 ..	60
7000	Royal Santiago	10 ..	6
2000	Pachuca Mines	4 ..	4½
11000	St. John del Rey	15 ..	6
43174	United Mexican	Av. 28½ ..	1½

JOINT-STOCK BANKS.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
22,500	Australasia	£40	£3	£15
20,000	British North American	50	5	45
20,000	Colonial	25	5	14½
—	Commercial of London	20	6	22 23
4,000	Ionian State	25	6	24½ 25
60,000	London Joint-Stock	10	6	15½
30,000	London and Westminster	20	6	24½
10,000	National Provincial of England	35	5	36
20,000	National of Ireland	22½	5	19½ 19¾
20,000	Provincial of Ireland	25	8	40 42
4,000	Ditto New	10	8	15¾
20,000	Union of Australia	25	6	23½
10,000	Ditto New	2½	6	2½ 2¾
60,000	Union of London	16	5	10¾

MISCELLANEOUS COMPANIES.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
10,000	Assam Tea Company	£20	—	£ 3
1,080	Auction Mart	—	£ ¼	28
10,000	Australian Agricultural	30	1	22
10,000	Australian Trust	35	—	30
8,000	British Alkali	25	4	16⅝
10,000	British American Land	35½	—	14
8,600	British Rock and Patent Salt	35	18	11
9,915	Canada	32½	6	31
—	City Bonds (Navigation)	—	3½	89
1,800	Corn Exchange	37½	1½	26½
5,000	Droitwich Patent Salt	25	⅝	11
2,700	Equitable Reversionary	95	4½	90
—	General Reversionary Interest	100	5	100
0,000	General Steam Navigation	14	1½*	24
—	Hudson's Bay Stock	—	10	230 240
2,100	Hungerford Market	100	⅝	—
1,500	London Commercial Sale Rooms	—	1½	31 32
8,000	London Reversionary	22	—	23 24
300	Margate Pier	—	10	196
10,000	Mexican and South American	7	—	3¾ 4
20,000	New Brunswick	75	—	—
11,600	Peninsular and Oriental Steam	50	7	59
6,600	Ditto	40	—	—
5,387	Reversionary Interest Society	100	4½*	97
—	Royal Mail Steam	—	5½	48

THE COAL TRADE.

River Wear vend of coals and coke, from 30th June, 1847, to and with 31st December, 1847; sworn to by the stathmen of the several coalowners undermentioned, before the commissioners of the River Wear, on Wednesday last, the 19th inst.:—

	Chargeable with River Duty.	Exempt from River Duty.
Trustees of the Earl of Durham, Lambton Collieries	82294	4418
The Hetton Coal Company	62916	1560
H. Stobart, Esq., and Co., Lumley Colliery	20087	—
H. Stobart, Esq., and Co., Fatfield and Arbour House	7212	5640
The Haswell Coal Company, Haswell Colliery	33946	—
The Whitwell Coal Company	12183	—
Wm. Bell, Esq., and Owners of Shincliffe Colliery	13452	—
Wm. Bell, Esq., and Owners of Belmont Colliery	8982	—
Wm. Bell, Esq., and Owners of Monkwearmouth Colliery	13942	2842
John Eden, Esq., Beamish Colliery	9029	—
The Marquis of Londonderry, Pensher	4921	949
The Owners of Chatershaugh Colliery	1676	—
Northern Coal Mining Company	2490	—
T. R. G. Braddyll, Esq., and Partners, South Hetton Colliery	9528	—
The Marquis of Londonderry, Rainton Colliery	88	—
North Hetton Colliery	1185	—
The Trustees of the Earl of Durham—Coke	207	—
The Owners of Keepier Grange	8093	717
COALS AND COKE SHIPPED IN THE NORTH DOCK.		
William Thompson, Edmonsley Colliery	6519	—
The Marquis of Londonderry, Pensher Colliery	3080	—
E. Richardson, Esq., and Co, Charlaw and Derwent Collieries	790	—
Thos. Hedley, Esq., and Brothers, Craghead Colliery	195	—
The Owners of West Stanley Colliery	2494	—
Hunt, Perkins, and Co., South Pelaw Colliery	86	—
James Morrison, Esq., South Moor Colliery	2588	—
Keepier Colliery	3590	—
The Owners of Sacristan Colliery	6440	—
The Owners of Urpeth Colliery	434	—
The Owners of Marley Hill—Cinders	250	—
The Owners of Washington Colliery	903	—
The Owners of Pelton Colliery	175	—
Northern Coal Mining Company	3032	—
South Peareth and Usworth	4416	—
Burnhope Colliery	1324	—
Felling Colliery	112	—
Hunwick	78	—
Burnopfield and Tanfield	97	—
Dipton—Cinders	38	—
Total Chaldrons	328,8..2	16126

COMPARATIVE VENDS SINCE 1824.

Years.	1st half-year.	2d half-year.	Total.
1825	239,187	262,856	502,043
1826	238,836	279,449	518,285
1827	227,283	266,387	493,670
1828	233,947	266,654	500,601
1829	259,081	305,847	564,928
1830	231,091	292,466	523,557
1831	197,343	276,580	473,923
1832	204,387	248,878	454,265
1833	248,665	260,413½	509,078½
1834	193,066	226,473	419,532
1835	180,298	230,574	410,879
1836	197,813	237,192½	436,005½
1837	228,425½	274,004	502,429½
1838	205,450	276,643	482,094
1839	214,856	269,101	483,957
1840	228,840	269,706	497,546
1841	240,701	268,348	509,049
1842	229,598½	239,100	468,698½
1843	195,824	255,015	450,839
1844	152,992	241,480	394,472
1845	246,595	287,118	533,713
1846	240,910	280,321	521,231
1847	282,950½	328,802	611,752½

LEAD ORES

Sold at Douglas, Isle of Man, Jan. 19.

Mines.	Tons.	Amount.	Purchasers.
Laxey Lead Ores	75	£17 17 6	Newton, Keates, & Co.
Sold at Holywell.			
Maeseyrwddw	88	£9 14 6	Walker, Parker, & Co.
ditto	8	10 4 0	ditto
Coetia Llys	24	9 16 0	Mather & Co.
Melwr	5½	10 2 6	Newton, Keates, & Co.
Hendre	100	9 17 6	Walker, Parker, & Co.
ditto	40	9 17 0	Mather & Co.
ditto	32	10 0 0	ditto
Parys Mine	3	9 0 0	Walker, Parker, & Co.
Fronfownog	58	10 2 0	ditto
Deep Level	72	9 16 0	ditto
Conbig	60	9 15 6	Newton, Keates, & Co.
Total tons	490½		
Sold at Aberystwith.			
Goginan	70	£14 2 0	Newton, Keates, & Co.
ditto	50	14 5 0	ditto
Frongoch	75	9 17 6	Riddle & Co.
Nanteos	16	8 17 6	Sims, Willyams, & Co.
Penpomprin	17	10 12 0	Newton, Keates, & Co.
Total tons	228

Original Correspondence.

CLARKE AND VARLEY'S ATMOSPHERIC RAILWAY.

SIR,—Having seen, in your Journal of the 8th inst., an article, the design of which was to furnish the public with a report of the examination and experiments conducted by Messrs. Gravatt and Hays, who were appointed for that purpose, by the parties interested in the atmospheric tube laid down at Blackwall, I feel, upon reading that report, that a duty is imposed upon me to furnish some explanations, particularly upon that portion wherein it is stated, "that the experimental tube is far from being in that perfect condition in which it might be, with proper workmanship." Now, Sir, I might appeal to yourself, as having frequently visited our place, and inspected the tube during the process of filling up, that many were the difficulties we had to contend with, arising from the want of proper machinery and other circumstances; and, moreover, the bending the plates into tubular form had to be done at a distance; and, again, a difficulty arose, from the novelty of the construction, and our not having all the tubes furnished before hand—from which cause may be attributed the want of uniformity in the diameter referred to by Messrs. Gravatt and Hays. Various other causes might be adduced, but, for the present, this shall suffice; there is one point, however, to which I would refer, in conclusion—that is, when an opportunity arrives for us to furnish the tubes, we shall be fully prepared to do so, at considerably below the estimate named in the above report.—JOHN VARLEY: *Garden-place, Orchard-st., Jan.* 16.

COMMUNICATION BETWEEN GUARD AND ENGINE-DRIVER.

SIR,—I have paid great attention to every suggestion with reference to effecting a proper means of communicaion between the engine-driver and guard; but I see none worthy of notice, excepting the systems proposed by Messrs. Brett and Little, and Mr. Allen. Out of these two suggestions, I think one could be made of a practical nature—viz.: to use Messrs. Brett and Little's means of making contact, and Mr. Allen's whistle. Any one at all acquainted with the subject, must be aware, from the extreme delicacy of Messrs. Brett and Little's clock-work, that it is more suited for a drawing-room than for a dusty, smoky, vibrating locomotive engine. An objection has also been raised against Mr. Allen's whistle, on the ground of its being used for other purposes; but Mr. Allen could easily obviate this, by merely adopting an extra whistle of a different tone to the one used by the engine-driver for ordinary signals; but a still greater objection may certainly be raised against Messrs. Brett and Little's bell—viz.: that a spanner, hammer, fire-bar, &c., may fall upon it, and the whole apparatus thus become useless.—CIVIL ENGINEER: *London, Jan.* 20.

COMMUNICATION BETWEEN GUARD AND ENGINE-DRIVER.

SIR,—The numerous accidents that occur on what may be termed well regulated railways show that something is still wanting, for the greater safety of travellers, in the shape of communication between the guard and engine-driver of a railway train. Simplicity in the construction of machinery, of whatever kind, has in all times been the most successful; and we may rest satisfied that experience will ultimately stamp such as the most effectual. In glancing over the many clever and ingenious plans, noticed of late in your Journal, anent a communication between guard and engine-driver, it appeared to me that none of them were direct enough. Why go the round-about way of alarming the engineman to do the work—which, by-the-bye, he might not be in a capacity to do—that could be done at once by the one giving the alarm? I thought of giving the guard command over the coupling that connected the first coach and tender—so that, whenever he saw the slightest danger, he could cut off the connection with coach and tender, and, by the application of a strong brake, overcome the impetus of the carriages, and very soon bring them to a standstill; but, as this would at once free the engine of its load, and might be attended with considerable damage, I do not consider such as at all practical. However, I am happy to observe a plan, simple and most effectual, which must have stared every one in the face, and I wonder how it has been lost sight of so long—I mean the method proposed by Mr. Dunn, of Newcastle, explained in your Journal of 8th January last, for giving the guard the full command over the steam-valve of the engine. What can be more effective than to say, the driver in front, and the guard behind, both having full command of the power that puts and keeps in motion; and, by a very simple contrivance, each carriage, or box, can be fitted up, so that a signal can be raised (say a small flag), should anything go wrong with passengers within. That noticed by Mr. Dunn, of the driver being in a state of intoxication, may be a rare case, but still it may occur again. It might, also, be argued, that there is no guarantee for the guard not getting into a similar predicament—I would say none; but, as there is no other way of communicating with the engine or driver, excepting through the guard, it is making the most of the worst, and having two checks, instead of one. The expense of erection would be a mere trifle, and could not get out of repair. It would be a simple affair to bolt a pair of small cast-iron sides, for the wince to work in, on to the top of each carriage; and all that you required to do, in cutting off carriages, would merely be the shitting of your wince, which would fit in all the side pieces (bolted on to the top of each carriage) alike, and cause very little trouble in changing, as each carriage would carry its own attaching chain. If it is necessary to have the chain always on the same side as the driver's right hand, that would be somewhat troublesome, as the whole of the coaches would require to be turned each trip; but this I do not anticipate. I would have a sort of double crank to work the handle, and which would be as effective on the one side as the other. Of course, it might require a slight variation of connection, but that would be all; and, as all the cranks, &c., would be made fast upon the tender, there would be nothing to do, at a change, but just shift the wince, attach the chain, and move on as before—or, if that was objectionable, have the carriages fitted alike on both sides, so that it would only be the alteration of the chain, at the end of each trip, to the reverse side, or have both sides fitted up with chains, and that might, possibly, be the preferable way.—N. B.: *January* 19.

IMPROVEMENTS IN THE STEAM-ENGINE.

SIR,—Observing a paragraph in your valuable Journal, headed "Improvements in the Steam-Engine," I think, if Mr. Aiken, of Bermondsey, will take the trouble to peruse Mr. John Gray's specification, enrolled 1839, he will find, that he might have saved the trouble and expense of securing his "patent." J. E. H.

Roodee Iron-Works, Chester, Jan. 19.

During the month of November, 1847, the silver mines of Spain produced 45,088 ounces.

HOPE FOR THE CANALS.—In noticing, a few weeks ago, a well-written pamphlet under the above title, from the pen of Mr. Boyle, of Wolverhampton, on the subject of the amalgamation of railways with canals, and the restoration of canal property to a position of prosperity, we inadvertently omitted to name it as above, heading our paragraph "Canals *versus* Railways." As the omission may have been a source of disappointment to some of our readers, who had not previously heard of the pamphlet, we here supply it, and unhesitatingly recommend its perusal to the sender and receiver of goods, and all who are interested in either railway or canal property.

PROGRESS OF STEAM NAVIGATION IN THE INDIAN SEAS.—The establishing of steamers from the different parts of our Indian empire, and the introduction of railways, will be the means of throwing open a wide field to the mining industry of that rich portion of her Majesty's dominions. The following is a list of the steamers belonging to the Honourable East India Company:—*Acbar*, 1143 tons, 550-horse power, 6 guns; *Ajduha*, 1440 tons, 500-h. p., 6 guns; **Assyria*, 158 tons, 40-h. p.; *Atalanta*, 616 tons, 210-h. p., 5 guns; *Auckland*, 946 tons, 220-h. p.; *Bernice*, 664 tons, 280-h. p., 3 guns; **Comet*, 204 tons, 40-h. p.; **Conqueror*, 204 tons, 40-h. p.; **Indus*, 304 tons, 60-h. p.; **Meenee*, 480 tons, 80-h. p.; **Medusa*, 432 tons, 70-h. p.; **Meteor*, 149 tons, 24-h. p.; *Moozuffur*, 1440 tons, 500-h. p., 6 guns; **Napier*, 1440 tons, 500-h. p., 6 guns; *Nimrod*, 158 tons, 40-h. p.; **Nitocres*, 158 tons, 40-h. p.; *Planet*, 335 tons, 60-h. p.; *Queen*, 760 tons, 220-h. p., 4 guns; **Satellite*, 335 tons, 60-h. p.; *Semiramis*, 1000 tons, 300-h. p.; *Sesostris*, 876 tons, 220-h. p., 4 guns; *Snake*, 40 tons, 10-h. p.; *Victoria*, 714 tons, 230-h. p.; *Zenobia*, 684 tons, 280-h. p.; and 15 sailing vessels, from 150 to 560 tons, carrying 16 to 20 guns each. Iron, wood of every description, and coal, are very plentiful throughout India; but hitherto have only been worked on a small scale, in consequence of the want of the means of transport and the expense of carriage to Calcutta, Madras, &c., which have hitherto been the great drawback to mining enterprise, although rich minerals are known to exist in various parts. The establishing of railways, and the facilities of steam navigation, will, a few years hence, cause a grand opening to mining adventurers, not only in India, but Australia, New Zealand, and the Island of Borneo, which contain iron, copper, lead, a small portion of silver, and coals of a superior quality.—[Those vessels marked * are built of iron, and sent from England in pieces, and put together in the country. The greater portion of the steamers were constructed at Glasgow and London, and put together at Bombay.]

NOTICES TO CORRESPONDENTS.

It will at all times save much trouble, and frequently considerable delay, if communications are simply directed— To THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

Also, to avoid trouble, POST-OFFICE ORDERS should always be made payable to WILLIAM SALMON MANSELL, as acting for the proprietors.

*** We should feel obliged to all purers, captains, or adventurers, to forward particulars of meetings, &c., of the mines with which they may be connected, on the earliest opportunity, that they may be published in the Journal with as little delay as possible.

The space occupied by the Glossary, compels us to defer much matter intended for publication, and will be sufficient excuse for the omission of several communications from correspondents.

The paper on Improving the Method of Propelling Vessels with Paddle-Wheels, shall appear in our next.

The *Penzance Gazette*, in copying our report of Mr. Hunt's Lecture on Mining, forgot to acknowledge its source—doubtless, the omission will be rectified in future.

"T. H." (York).—Professor Ansted's Lectures will be resumed after the recess, when their publication will be continued in the Journal.

Erratum.—In the letter of "A South Staffordshire Collier," in last week's Journal, line 27, *for* "short-sighted," *read* "*sharp*-sighted."

We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses; not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

The MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

Glossary of Mining Terms.

The part of this sheet devoted to the Mining and Smelting Terms, must be cut off, and will then form an independent sheet—for separate use, or to be bound up at the end of the volume.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, JANUARY 22, 1848.

The last week has not exhibited any mining characteristic materially different from the few preceding weeks. Shares have changed hands with no more than their customary briskness, and inquiries continue to be lively and numerous; but the transactions absolutely completed, the sales actually made, have, in no material degree, differed from what they were in the dull and depressed season, which has now had a tolerable longevity; the fact is, the public does not know into what channels its money may be most advantageously directed, and cannot foresee very distinctly the commercial and trading character of the approaching future. For this reason, the deposits in the Bank of England, and the other banks of the metropolis, have grown unusually heavy. The bankers themselves are quite at a loss to decide in what way the large amounts in their hands can be sent out into safe and profitable occupation. Money, in fact, is not scarce, but abundant, and we think likely to become more so—for the quantity stored in Threadneedle-street is expected to continue on the increase for some time to come. Consols, it will be seen, partaking of the general confidence and fulness of the market, have gone up to 88 and above, and will not, it is morally certain, long continue there. For our own part, though we desire to see the funds higher still, and confidence in all trading circles more firmly settled, we do not wish to see the Bank deposits, or its bullion, further increased. It must be much better for the country that its accumulated capital should be distributed for the refreshment and sustentation of business in general, than that it should stagnate in the great metropolitan pool. It would be an act of seasonable wisdom and beneficence if the gentlemen of the Bank parlour would turn the tap of the money reservoir, and make, as far as they are able, the thousand branches of trade wholesome and vigorous, by the cleansing and restorative efficacy of such a tonic stream. When this mixture of fulness and ease is given to the branches of our local industry requiring it, we shall see a very cheering alteration in the activity and success of all mining industry.

A notice of meeting, subscribed by some of the very first names in Cornwall, appears in the *Gazette*, published at Truro, to consider what preliminary measures had best be taken, in the event of a renewed discussion in Parliament, on the question of continuing, or relinquishing, the present modified duties on foreign copper ores. The parties calling the meeting being Members of both Houses of Parliament, must be supposed to know much more of the intentions of Ministers than we can, under any circumstances, pretend to; still we may venture to express our humble opinion as to what those intentions are, and to add that, as far as we can see the Ministerial path for the session, it will not, in all its windings, touch the duties presently leviable on foreign-raised ores. Adhering to the policy of a further relaxation of the tariff duty on this, and on other articles of foreign origin, we may yet doubt the propriety of making the desired changes under the existing circumstances of the country; it is not exactly the moment, we think, which a prudent Minister would choose for venturing upon alterations, which, for the moment, may lessen the public income. Whatever may be the merits of a liberal policy as a permanent rule of commerce, it cannot be supposed, like a law of Nature, to admit of no deviation, to be incapable of any intermission. It is in occasional departures from, or temporary suspensions of, the predominating principles of financial and political Government, that the judgment of a statesman is most illustriously exhibited. A servile and universal conformity to rules, in themselves good, points out, not the governing power of the individuals in office, but rather the fact, that they themselves are governed. With a revenue depressed, in consequence of an unparalleled commercial pressure—with the probability of an enlarged vote for the military and naval service of the country—who would not say that the time was most inopportune for striking out of the tariff 50,000*l.* or 60,000*l.*, which might be retained there to the perfect satisfaction of those most nearly interested? It is not to be supposed, that under the circumstances, the Chamber of Commerce, at Manchester, will be able to outargue the Board of Trade, at Whitehall, or to take, for this year at least, 50,000*l.* out of the till of the Exchequer. For these, and other reasons, we presume, that the agitation organised on the subject, both in Manchester and in Cornwall, by which one party would accelerate, and the other impede, the fiscal march of Government, is so much good healthy organisation thrown away—besides which, our mining and manufacturing friends may rest assured, that Ministers will pursue their own course, and carry out their own policy, without materially departing from it, at the solicitation of provincial meetings, or of metropolitan deputations.

The numerous and, as we think, highly important series of mining returns, which have appeared in recent Numbers of this Journal, have brought out some particulars connected with this increasing branch of domestic industry, requiring a more extended notice than we are at this moment able to give them. From among those particulars, we select the copper ore produce of the county of Cornwall, the average annual amount of which is about 150,000 tons. This large mass of ore is annually carried into the principality of Wales, to be there smelted; and supposing the roasting and purification of the ore to involve an expenditure of forty shillings per ton, the outlay in Wales for labour and the incidental costs of reduction would be about 300,000*l.* a year. As a matter of course, the large outlay would enrich the county producing the ores, if cheap fuel, adequat to such a vast furnace work as this confessedly is, could be had within the limits of the district itself; but, unfortunately, Cornwall is by no means a wooded county, and of the coal formations, it has not anywhere within its coasts the faintest traces. Still, would it not be worth consideration, whether coals could not be brought across from their abundant beds in Wales, and the business of smelting the Cornish ores be conducted in Cornwall, to the manifest advantage of that county, notwithstanding its unfavourable circumstances as to a supply of fuel. One or two large smelting establishments on the northern coast of Cornwall, probably between Hayle and Padstow, would be well situated for the prompt and inexpensive reception of coals, and also be conveniantly accessible to the greatest number, and the most productive mines of the entire district; and, we may add, that the planting of such an establishment might, and, in all probability, would, be the fruitful nucleus of a flourishing town in that district. Smelting, on a small scale, and limited perhaps to the tin ores, has, for a considerable period, been practised at Calenick and at Perran Well. What has been the channel by which fuel has been obtained, and what its cost, in those instances, we cannot say; but we think it probable, that a more enlarged effort in the same direction, might result in an enlarged amount of advantage to the county. The supply of fuel, we are aware, is the whole difficulty of the case. But it is worth consideration, whether that necessary material could not be brought from the principality, and the smelting of Cornish ores be completed in Cornwall, with much greater advantage to the county, than can arise out of the present costly and cumberous method of proceeding.

The discontinuance of the French line of steam-packets from Havre to New York has not only caused some surprise on this side the Channel, but on the other. The French Government has for a long time been jealous of the international intercourse between Great Britain and the United States, by her splendid steamers from Liverpool; and, after many debates on the subject in the Chamber of Deputies, the Minister of Marine was at last successful in obtaining a majority for the establishing of a trans-Atlantic steam-packet service. The *Union*, *Missouri*, *Philadelphia*, and the *New York*, were built for that purpose, of 2300 tons each, and 450-horse power, classed as frigates. The *Union* made her first trip from Cherbourg on the 24th November last, and the *Missouri* from Havre on the 23d December; but, unfortunately for the commercial interest, it was found that the vessels were not suitable for such a service. We have in former Numbers alluded to the United States steam-packet, *Washington*, the first trip of which from New York to Bremen, was so unsuccessful, in consequence of her machinery and coals.

We do not wish to throw any disparagement on the scientific attainments of French engineers, as we know them to be men of experience, and desirous to improve the industry of their country, were it not for the oppressive monopoly of the coal and iron mine proprietors, who have prevented the development of steam navigation and railways, by their intrigues in the Chamber of Deputies against the reduction of the import duties on foreign coal, iron, machinery, &c. The Ministers, however, will bring forward a *projet de loi* this session, to revise the tariff laws, and particularly those relating to British and Belgian coals and iron—sheet, cast, &c.

IMPROVEMENTS IN VALVES FOR STEAM-ENGINES.

[Specification of patent granted to Edward Wheeler, of Basingstoke, Hampshire, for improvements in valves for steam and other engines.—Patent dated July 3, 1847.]

From the specification of this invention, as enrolled, which is extremely verbose, in the Roll's Chapel-office, we take the following summary:—*Firstly*, it consists of affixing an additional flat sliding plate to the sliding valve—the plane of such plate being exactly parallel to the flat-fitting surface of the slide valve, but at some distance from that surface; and the border margin of the said additional plate, applying with close contact against a fixed plate, which is exactly parallel to the fixed flat surface, against which the slide valve applies and slides, in order that the steam, which tends to press the slide valve forcibly towards such fixed flat surface (in the usual manner of such slide valves), may, by virtue of the improvements, also press, at the same time, in a contrary direction, against the said additional sliding plate of the slide valve—so as, by counteraction, to relieve the slide valve from all excess of pressure against the said fixed flat surface, beyond what is desirable for retaining the slide valve in close contact with that surface; the slide valve, with this improvement applied to it, being, nevertheless, left at liberty (in the usual manner of such sliding valves) to separate from its contact with the said surface, in case of water getting into the cylinder of the steam-engine—such improvements being applicable to all kinds of steam-engines in which slide valves are, or may be, used.

The *second* part of these improvements consists in affixing a circular, or other shaped piston to the sliding valve, that piston being suitably adapted to a cylinder (or other shaped prismatic container), for such piston, in order that the steam, which tends to press the slide valve towards the fixed flat surface, against which it slides, may also, at the same time, press in a contrary direction against this piston—so as, by counteraction, to relieve the slide valve from excess of pressure against the fixed flat surface. The cylinder (or other shaped prismatic container), into which the said piston is so fitted, partakes, in all cases, of the sliding motion of the slide valve, and the slide valve being left at liberty (in the usual manner of such slide valves) to separate from its contact with the flat surface against which it slides, in case of water getting into the cylinder of the engine.

The *third* part of these improvements consists in introducing the steam from the boilers in the interior hollow of the slide valve by means of a cylindrical steam pipe, fitted with stuffing boxes—so as to permit of the sliding motion of the slide valve, without interfering with the supply of steam to the interior hollow of the slide valve; also, in applying pistons (or a piston) to said hollow slide valve for counterbalancing the effect of the pressure of the steam therein.

The *fourth* part of these improvements consists of affixing a circular, or other shaped, piston to the regulating slide valve, which is commonly used as a regulator of the quantity of steam that is to be permitted to pass from the boiler into the steam pipe in its way to the engine; the piston being fitted into a cylinder (or other shaped prismatic container), which, as well as the piston, partakes of the sliding motion of the regulating slide valve, and the pressure of the steam against the piston relieving the regulating slide valve from being too forcibly pressed by the steam towards the surface, against which the said slide valve slides.

The *fifth* part of these improvements consists either of applying a circular or other shaped prismatic container to the spindle of a safety valve for steam or other engines, in such manner that the pressure of the steam against such piston may counteract a great part of the pressure wherewith the same steam tends, in the usual manner, to force open the safety valve, in order that a large safety valve may be used with only a small weight (or force of spring) for loading such valve, or else, instead of such piston, applying another smaller valve to the spindle of a safety valve—so that the pressure of the steam, which tends (as usual) to open the ordinary valve, may at the same time tend to close the other smaller valve on the same spindle, and thereby the latter tendency will counteract a great part of the former tendency—so that a small weight or force of spring will suffice for loading such double safety valve, and, when the same is opened, both the valves will give passage for the escape of the steam in the manner of what are commonly known as double beat valves, but which have not been hitherto applied as safety valves for steam or other engines.

Patent-office and Designs Registry, 210, *Strand, Jan.* 18.

IMPROVEMENT IN REFINING SILVER-LEAD.—Mr. A. H. Johnson, the well known assayer of Gresham-street West, has recently obtained a patent for "improvements in refining silver-lead, by effecting a saving in one of the materials used"—its actual object being to redeem, and make again available, the *cupels* of bone-ash made use of in the process of refining silver-lead, which have hitherto been wholly thrown aside after one operation. The manner in which this is carried out we shall be able to detail to our readers as soon as Mr. Johnson enrols his English specification; in the meantime, we may state, that we have it from a friend, who has witnessed the working of the process, that the result is in every way satisfactory, not only preserving the bone-ash of the cupel so fully that it can be used over and over again, but also the silver-lead absorbed by the cupel. Several of the largest lead-works are adopting this invention.

PROGRESS OF FRENCH MINING INDUSTRY.

[FROM OUR PARIS CORRESPONDENT.]

The following modifications have just been made in the bye-laws of the Company of the Great Iron-Works of Chatillon and Commentry. I state them at length, because I believe some of your readers hold shares in the concern:—1. M. Louis Bordet, ironmaster, residing at Auberive, has been nominated managing, or responsible, director *(gérant)*, with the same rights, powers, and obligations as the other acting directors. He has already entered on the discharge of his duties.—2. Article 24 of the bye-laws is annulled, and replaced by the following:—"The shares are transferable at will by all the shareholders, from Jan. 10, 1848, with the exception of those deposited by the acting directors, as the guarantee of their management."—3. The capital primitively represented by 5000 shares, or parts, of interest, of 5000 fr. (200*l.*) each, is hereby divided into 25,000 shares, of 40*l.*—4. In consequence of the preceding clauses, the collective guarantee of the present responsible directors has been fixed at 160,000*l.*, and it will replace the individual guarantee fixed by article 29 of the bye-laws. These collective guarantees must be realised by the shareholders, according to a division to be made among themselves. This guarantee, applicable only to the present directors, is purely transitory, in this sense, that it will only exist for either of them during the duration of their functions; but it will not cause any modification in article 32 of the bye-laws. —5. To be entitled to form part of the general assembly, and to vote therein, a shareholder must hold 50 shares at least; but several shareholders may agree among themselves to place their shares in the hands of one of their number, so as to make up 50, and so enable the holder to be present; but every person so chosen by his brother shareholders must, at least, possess five shares.—6. In voting in general assemblies 50 shares give a right to one vote, 150 shares to two votes, 300 shares to three votes, 500 shares, or upwards, to four votes.—7. To be entitled to propose to the general assembly modifications in the bye-laws of the company, a shareholder must hold 2500 shares.—8. By modification of section 4, of article 31, of the bye-laws of the company, *en commandite*, the responsible directors of this company may contract any loans, even by mortgage, but only for the realisation or the reconstitution of the reserve fund, which is fixed at 200,000*l.*

The opposition to the proposed new law on salt gains ground, and promises to become really very formidable. The Chambers of Commerce of Nantes, Bordeaux, Havre, Rouen, Orleans, and a number of other places, have declared formally against it. The consumers of salt in the vicinity of salt-works are also protesting against it, for it appears that in several parts of the kingdom it will actually make salt dearer to them. The measure relative to salt forms part of a bill presented by the Government for effecting a reduction of the postage on letters; but, in this one bill, the Government cleverly contrives to lay down two opposite principles. Thus, to the purchasers of salt residing in the vicinity of salt-works, it says:—"You shall derive no advantage from that vicinity—you shall pay exactly the same price as the man to whom the salt has to be conveyed 100 miles;" but to the receivers of letters it says:—"You shall pay more to the Post-office for carrying a letter 100 miles than for carrying one 50"—although, in point of fact, the actual cost to the Post-office for the conveying the latter may be greater than for conveying the former. There may be great wisdom in thus laying down two different principles to two measures, which are exactly the same; but really, to plain people, it looks marvellously like stupidity.

For some time past, the free-trade movement has been, as it were, sunk into lethargy, but not long ago its principal partisans held a meeting, at which some encouraging speeches were delivered. The report of the committee on the Customs Bill has, as was to be expected, excited the hostility and derision of the free-traders, and they threaten to make war stoutly upon it. Let us hope that they will more specially direct their attacks against the iron monopoly, and against the unjust duties which limit the importation of English coal. There may seem to be something like selfishness in an English writer thus advising a concentration of attacks against that part of the tariff, which particularly injures his own country; but, in truth, the selfishness is more apparent than real. For be it remembered (the *Mining Journal* said the same thing months and months ago) the iron and coal monopolies are not only the most oppressive and the most unjust, but they are precisely those which are the keystone of the monopolist arch, and those—this fact is important—which are really the most unpopular. Attack those monopolies, and let the others alone for the present. Demand cheap iron and cheap coal, and everybody will join in the application—everybody, even those who are, from principle, or self-interest, friendly to "protection."

When you have broken down the iron and coal monopolies, depend on it that the others will tumble down after them. Imitate, therefore, the conduct of the English free-traders—they were opposed to all monopolies, but they confined their onslaughts to the greatest of all—that of the Corn Laws—and, by dint of reiterated attacks, conquered it; and yet the landlord interest was 10,000 times more powerful than is that of the French ironmasters. The landlords could speak in the name of millions of people, and millions in money, and they had hosts of friends of all classes. The ironmasters, on the contrary, can only speak in the name of a few hundreds of people, and a few thousands in money; and, besides, they have not got a friend in the wide world, for "their hand is against every man, and every man's hand is against them."

On the 19th of Feb. the Marine Department, at Brest, will receive contracts for 8250 tons of pit coal, and 2000 other tons for coal, for coke, &c. On the 29th of Jan., for the supply of 170 tons, at Nevers. On the 12th of Feb., the department will receive contracts, at Brest, for casting 862 tons of old cannons, &c., into new projectiles; and on the same day, for the supply, to Rochefort, of 60 tons of red Chilian, English, and Russian copper, in pigs.

Matters look rather promising with respect to what is called the Customs Bill—*i. e.*, the measure which, among a multitude of other things, proposes to allow iron, copper, zinc, &c., destined for shipbuilding, to be imported free of duty. The committee on the King's speech echoes what his Majesty said on the subject; and M. Lanyer, the deputy, is to-morrow to demand that the bill may be proceeded with. These are only matters of form, it is true, but still they are encouraging. The discussion on the measure is looked forward to with the greatest interest by those who understand the free trade question as it regards France, and especially by those who are concerned for, or against, the iron monopoly; for it is a step in the right direction, and is a first blow levelled at the ironmasters.

I have just received letters and newspapers from St. Etienne up to the latest date. They are, as usual, filled with the eternal question about the Compagnie Generale; but the only new facts they set forth are—1. That a number of the municipal councillors have petitioned the sub-prefect to allow them to deliberate in council on the affairs relative to the company, on the ground that the latter becomes more dangerous every day, and that it is again preparing to increase the price of coal.—2. That the company maintains, that when it announced publicly that the Cabinet had decided that, with the guarantees it offered to the consumers, there was no objection to its being constituted in *société anonyme*, it declared nothing that was untrue.

A company is being formed with the modest capital of 8000*l.*, in shares of the modest amount of 8*l.*, for working some mines of silver-lead, at Hausbaden and Vogelback, near Mulheim, in the Grand Duchy of Baden.

A French horticulturist has just discovered, that weak plants and shrubs may be strengthened, by being plunged into a solution of sulphate of iron. —*Paris, Wednesday.*

BELGIUM.—The Company of the Mines of Airoy and Boverie are taking measures to obtain permission to establish a railway from their mines to the State Railway; and the Company of the Mines of Chartreuse, Pyre, and Violette, one to the Meuse.

The Dutch Government is having 17 cannons cast for it in the national foundry at Liege.

The establishment of Haber and Co., of Carlsruhe, which lately failed, had established some iron-works on an extensive scale.

The coalowners' committee of the district of Liege have sent up a very energetic remonstrance to the Government against the increase of the import duty by Prussia on Belgian coal; they say it will have "fatal consequences" to them, if persisted in. It is understood, that the coal-pits in the Liege district sent about 70 waggons of coal a day by railway to the Prussian provinces. The consumption was, therefore, it will be seen, very considerable.

The new treaty of commerce between Belgium and the Two Sicilies has just been published. It reduces the import duty in favour of Belgian machines, &c., 20 per cent., and that on muskets and pistols very considerably.

There is some talk in the mining world of a new machine, which has just been brought into use in one of the Seraing pits, for descending into, and ascending from, mines. It presents many improvements on that hitherto employed, and differs from it in certain important respects. It only weighs 1500 kilogrammes per 100 metres; whilst that in general use weighs 5000. It enables 40 miners to descend a depth of 320 metres (the metre is rather more than a yard) in a quarter of an hour, and to ascend with the same rapidity.

Complaints are made of the delays which take place in the Government offices, in respect to all matters connected with coal mines. The Government, for example, has just lost a great deal of time in deciding on certain charges in the tariff of some of the railways on the conveyance of coal, and this has caused a very serious loss indeed to the coal-pits in the centre of the kingdom.

People still continue to cry out for a reduction of the duty on British cast-iron for melting purposes. Why does not the Government grant it? Surely, when a country makes such vast and ever-increasing exports of that article as Belgium does to France, it ought, for its own sake, to put a moderate duty on that which its necessities compel it to draw from England and Scotland.—*Brussels, Tuesday.*

MINING IN SPAIN.

We perceive, by the Madrid journals of a recent date, that the Spanish Government has determined to take measures for enabling coal and coke to be conveyed to and sold in the capital at a moderate rate. These measures consist in providing for the efficacious working of the coal pits within easy reach of Madrid, and for reducing the duties and cost of conveyance of coal extracted from pits at a distance.

It may appear to our readers, that the measures in question are of little intrinsic importance in themselves, or at most that they are mere matters of interest to the people of Madrid; but the fact is, that it is by no means improbable that they may eventually lead to the consumption of coal becoming general, not in Madrid alone, but throughout Spain—that they may be the direct means of causing the vast coal-fields of that country to be worked with spirit and enterprise—and that, perhaps, they may even lead to the whole mineral wealth of Spain being turned to account in the same admirable manner as is that of our own country. In saying this, we can assure the reader that we are guilty of no exaggeration. For a long time past the Government of Madrid has been anxious to devise measures for "doing something," as the phrase is, with the immense mineral riches which Spain possesses, and which at present are either totally neglected, or worked in the most miserable manner. The subject has been pressed again and again on the attention of the different ministers and leading public men, not only by capitalists, who are ready to invest their money, but by men who, influenced solely by patriotic feelings, desire to promote the welfare of the nation. Numerous articles have, within the last few months, appeared in the Madrid journals, and a great number of "*exposicions*" and documents have been published on this important subject. From all this, we have arrived at the conclusion, that things are considered ripe for a bold plunge to be made in mining speculation; and we think that the measures now resolved on by the Government may be taken as the beginning of the enterprise. The stone has been set rolling, and we shall be surprised if, in the present disposition of the public mind, it does not go far before it stops.

In the *Heraldo* of the 10th (this journal is the official organ of the Government), we find an article on this subject, a few extracts from which will bear out what we have said. "The coal deposits of the Asturias," says our contemporary, "are, after those of Wales, the richest and most abundant that have been discovered on the earth. Notwithstanding this, they may be considered virgin—the wretched working of this branch of riches having among us not got out of the first rudiments of infancy, either with respect to the quantity of coal produced, or the manner of obtaining it. These mines offer then a vast field to the application of immense capital, which would not be long in being supplied, if their products were to be consumed. Nor are the Asturias the only part of our peninsula in which the precious combustible, which forms the right arm of British power, abounds. In Catalonia are the same deposits—on the banks of the Guadalquivir abundant veins have been found—and, no doubt, it is only owing to our imperfect geological knowledge that other beds, not less abundant in the mountains of our other provinces, have not been discovered. With such riches at our disposition, not only should we never want fuel, but, by working beds on a grand scale, we might succeed in giving an extraordinary impulsion to our navigation, our commerce, our manufactures, and with them to the power of the nation." The *Heraldo*, it will be observed, confines its observations to coal; but both it and other journals have frequently dwelt in a similar strain on the necessity of working with spirit and energy the mines of iron, lead, silver, zinc, &c., with which Spain abounds.

The *Heraldo* makes an excellent recommendation with respect to coal. To cause the Spanish mines to be worked on a great scale, it says that the consumption of coal must become general; and to cause the consumption to become general, it contends that coal ought to be *admitted duty free.* Its words are:—"In order that our mines may be worked on an extensive scale, it is necessary that the consumption shall become general; and, to effect this, the Government ought to employ all its efforts. To secure it we only know one measure, and that is to declare the importation of pit coal, come from where it will, absolutely free in all the parts of the peninsula." We are delighted to see our Spanish contemporary so devoted to free trade; for we need scarcely remark, that the measure it recommends is free trade to the very core. What a lesson to the prohibitionists —what a lesson to the iron monopolists of France! "Open the ports—let in coal duty free," cries the *Heraldo*; "and then, depend on it, our capitalists will be invited to work our coal-fields, and we shall have coal in abundance, and with it increased manufactures, railways, and commerce! Competition creates enterprise, and enterprise does great things!" What a lesson, we say again, to the iron monopolists of France! We hope the *Moniteur Industriel* will lay it to heart; but we frankly admit, that we do not expect it will do it any good!

The time has, perhaps, not yet arrived in which the new disposition for mining enterprise, now manifesting itself in Spain, calls for any very particular exertion on the part of British mining adventurers. But those who invest in foreign mines, and especially those who are interested in Spanish mines, would do well not altogether to neglect what is now passing in that country. The movement may become of vast importance to Great Britain as well as to Spain, by affording the means of employing British capital to nearly the same extent as in Mexico, with, however, greater security and better returns.

MINERAL WEALTH OF BORNEO.

Borneo abounds in the most valuable minerals. Gold is found in considerable quantities; and that precious metal forms a large article of export from Sarawak. It is found in three situations—in the crevices of limestone rocks, in the beds of rivers, and in the alluvial soil. It abounds most in Sarawak, Sarubus, Sangon, and Bonjar. The idle and listless Malays prefer to search the soil, as being the easiest, though not always the most profitable, method of finding the precious ore. On the sides of the limestone rocks are found small holes, continuations of which penetrate the hill for a distance of 40 ft. or 50 ft. Into these the miner descends—the bottom opens invariably into a cave covered with earth of a loamy nature. This is brought up, and when washed, yields about 1¼ oz. of gold to each bushel of earth. This is exceedingly profitable employment, and is carried on by all the poor and lazy classes of the Sarawak community; the wages of agricultural labour are consequently very high—and it is exceedingly difficult to hire men at all for ordinary work. How the gold could have been deposited in these caves is a curious question for the geologist and mineralogist to discuss—the merchant and the politician must deal with the fact as they find it, and be prepared for the effect which such a circumstance must necessarily produce upon the state of the labour market in the principality. The more laborious but certain methods of gold finding are carried on by the more industrious Chinese—who work in association, being all members of the great kung-si, or company, the officers of which manage all their affairs.

A more valuable product still is found in Borneo. Its diamonds have long been celebrated as equal in size and beauty to those of India or Brazil. Iron is also found in quantity; and it is supposed that formerly the Chinese smelted it and cast it into cannon; but the quality of the metal is not good, and it would hardly yield a profit to the European capitalists. Tin and nickel also exist in abundance, and offer a more tempting field for mining operations. The tin is of the kind called stream tin—so abundant in Malacca and the Malayan peninsula—the nickel is found combined with iron and cobalt: it has not yet been worked. Silver, of course, is not found there, any more than elsewhere in the east in similar latitudes. Mercury is known to exist, but it has not been yet obtained in sufficient quantity for the purposes of export. But as yet the most useful and profitable mineral obtained in Sarawak is the antimony ore—being of a richer and more valuable kind than that obtained in Europe. It was the discovery by the natives of the value of this ore which produced that insurrection of the Dyaks, which resulted in the elevation of Mr. Brooke to the rajarship, and laid the foundation of the permanent influence of England on the island. Soon after the establishment of the settlement of Singapore, the rajahs of Borneo, finding that the antimony of Sarawak commanded a ready sale there, forced the unfortunate Dyaks to work the mines, and exercised their cupidity and power with such wanton cruelty that the rebellion ensued—the putting an end to which was the price of the cession of the territory of Sarawak to Mr. Brooke.

The History and Practice of Mining in the British Isles,

IN RELATION TO METALLURGY.

MR. ROBERT HUNT'S LECTURES AT THE LONDON INSTITUTION.

LECTURE III.—IRON MINING: ITS HISTORY—THE NATURE AND CONDITIONS OF THE SEVERAL KINDS OF ORE—THE PROCESSES ATTENDANT UPON THEIR PRODUCTION AND MANUFACTURE—THE USES OF IRON, &C.

Mr. Hunt, who was received with considerable applause, said, there was no metal so universally diffused as IRON. It was found in all soils and rocks; scarcely any water existed which was free from it; and it was largely disseminated through every vegetable and animal body in existence; but, although there was scarcely any object in Nature in which it could not be discovered, it was rarely to be found in a metallic state. It was true, that native iron was found in the platina sands of the Uralian Mountains, and that in Canada there was a vein of pure native iron, 2 in. wide, running through a bed of chlorite schist; but these were the only instances in which it was found, so to speak, naturally. There were besides, in several parts of the world, large boulders or blocks of native iron found, but which, being completely isolated from the surrounding geological conditions, were ascribed to meteoric origin. Indeed, masses of this nature—which were known to be of meteoric production, and of which, the fact of their having fallen from the sky was well authenticated—had been found in many districts, and several remarkable specimens were exhibited on the table. The chief peculiarity of all meteoric iron, and the principal means by which they were able to distinguish it, was the large quantity of nickel and cobalt mixed up with it—as, for instance, a large meteoric boulder, discovered in Siberia, contained 10 per cent. of those materials. The Esquimaux knives, brought home by Capt. Parry from the North Pole, which were of very rude construction, were all made of meteoric iron, as was proved by their containing much nickel and cobalt. In *Brande's Manual of Chemistry*, there was the best account of authenticated instances of the fall of meteoric stones. He says—

"The first tolerably accurate narration of the fall of a meteoric stone relates to that of Ensisheim, near Basle, upon the Rhine. The account, which is deposited in the church, runs thus:—'A.D. 1492, Wednesday, November 7, there was a loud clap of thunder, and a child saw a stone fall from heaven: it struck into a field of wheat, and did no harm, but made a hole there. The noise it made was heard at Lucerne, Villing, and other places; on the Monday, King Maximilian ordered the stone to be brought to the castle, and after having conversed about it with the noblemen, said the people of Ensisheim should hang it up in their church, and his Royal Excellency strictly forbade anybody to take anything from it. His Excellency, however, took two pieces himself, and sent another to Duke Sigismund of Austria. This stone weighed 255 lbs.' In 1627, 27th Nov., the celebrated Gassendi saw a burning stone fall on Mount Vaisir, in Provence: he found it to weigh 59 lbs. In 1672, a stone fell near Verona, weighing 300 lbs. And. Lucas, when at Larissa, in 1706, describes the falling of a stone, with a loud hissing noise, and smelling of sulphur. In September, 1735, De Lalande witnessed this extraordinary phenomenon near Pont de Veale. In 1768, no less than three stones fell in different parts of France. In 1790, there was a shower of stones near Agen, witnessed by M. Darcet, and several other respectable persons. And on the 13th December, 1795, a stone fell near Major Topham's house, in Yorkshire; it was seen by a ploughman and two other persons, who immediately dug it out of the hole it had buried itself in: it weighed 56 lbs. We have various other and equally satisfactory accounts of the same kind. All concur in describing a luminous meteor, moving through the air in a more or less oblique direction, attended by a hissing noise, and the fall of stony or semi-metallic masses, in a heated state. We have, however, evidence of another kind, amply proving the peculiar origin of these bodies. It is, that although they have fallen in very different countries, and at distant periods, when submitted to chemical analysis, they all agree in competent parts; the metallic particles being composed chiefly of iron and nickel: the earthy of silica and magnesia."

The origin of meteoric stones was scarcely a question for him to enter upon; but he must remark, that one of the most interesting questions that could be conceived, was—from whence did these remarkable masses of iron come? Various theories had been broached with respect to meteoric stones. Some had thought that they were projected from volcanoes on the earth with such force as to convey them through the air for a great distance; and others were of opinion, that they were projected from volcanoes in the moon. With regard to the latter it was said, that if a body were projected at a rate equal to 6000 miles in a second—that was, three times faster than an ordinary cannon ball—it might be thrown beyond the bounds of the moon's attraction, and brought in two days within the limits of the earth's attraction. There was, however, no evidence in support of the one theory more than the other. He must, however, beg to say, that there was no necessity to go either to the moon, or to the volcanoes of the earth, for a feasible theory on this subject. When they considered that in the whole of the metals a large quantity was carried off in various chemical forms, as in vapours so attenuated as almost to set at defiance the closest experiments, and disseminated through the atmosphere, it certainly required but little acquaintance with the wonders of chemical science, to imagine it possible, that in the upper regions of air, some electrical or other influence might bring them within the limits of cohesion, when their specific gravity would at once cause them to fall to the earth. There was another and not less plausible hypothesis, that they might owe their existence to the disruption of small planetary bodies.

Without pursuing these speculations further, the talented lecturer proceeded to describe the different kinds of iron ore, which were not very numerous, and of most of which specimens lay upon the table. Among these specimens was a large piece of magnetic iron, which had a north and a south pole—one end attracting a magnetic needle, which was exhibited, and the other end repelling it. Having mentioned the carbonates, the oxides, the sulphurets, the chromates, &c., of iron, he particularly alluded to *tungsten*—a metal very little known, and with which several unsuccessful attempts had been made to form an alloy with other metals—though he doubted not but that there would before long be a most useful compound formed with this substance, which was valuable on account of its remarkable toughness. The most important, however, of the iron ores was the clay ironstone, or rather the argillaceous ironstone, or bog ore, which was found in bands, or in nodulous masses, disseminated through the beds of clay. There was also another most important variety found in the north of England, called the *blackband* ironstone, which was very extensively worked.

Mr. Hunt next proceeded to discuss the history and progress of iron mining. The period at which it commenced was uncertain; but in England it probably was of less ancient date than tin and copper. Indeed, it was known that copper, hardened by tin, was used by the Roman soldiers for swords during the whole time they were in Britain; and, not long ago, a number of Roman swords, in an excellent state of preservation, was found at York, which were of bronze. Mr. Mushet had, however, very judiciously shown that, although the Romans, and other civilised people, made use of bronzes for their weapons, iron and steel were known long before. He says:—"Other reasons may be adduced to show why iron may have existed, and did not supersede the use of copper and brass in the art of war and for general purposes. Og, King of Bashan, had his bedstead made of iron, which shows that the metal was known at an early period in Palestine; and some of the kings of Canaan had chariots made of iron. * * The first correct idea we receive from history of the importance of steel in the arts, is from the account of the present made by Porus to Alexander of 40 lbs. of Indian steel—a present which we are bound to consider was the most valuable that Porus could bestow, and the most acceptable that Alexander (at that time overwhelmed with the spoils of the East) could receive. This transaction on the banks of the Hydaspes, must have taken place at least 800 years after iron was in use in Palestine, and affords a strong presumption, that steel, if not altogether unknown to the artificers in Alexander's army, was an article exceedingly rare."—*Mushet on Iron and Steel.*

It had been stated that, in all probability, the Phœnicians, whose presence in Cornwall was certain, had worked some of the iron mines in Britain; but he (the lecturer) had never been able to satisfy himself that there was any evidence existing of the truth of that statement. The only indications which would favour such a presumption were at the iron mines near Lostwithiel, where possibly they might have worked the surface ore. That the Danes smelted iron in Britain, there was no doubt; and, to this day, large heaps of ancient *scoria* were called by the inhabitants "Dane's cinders." The earliest historical account of iron workings related to those of the Forest of Dean in the year 1066. The progress made from that period was utterly uncertain; but, in 1581, the Parliament passed an Act calculated to retard the progress of the iron manufacture—for it enacted, that no forest wood should be allowed to be cut for smelting iron ore, except under certain restrictions. In the 16th and 17th centuries, however, the manufacture must have been very great; and it would be found that, during that period, large cannon and mortars, made of iron, were exported to the continent in considerable numbers.

In 1615—the 12th year of the reign of James I—Edward Lord Dudley says that there were 300 blast furnaces at work, for smelting iron ore with charcoal; each having fuel, upon an average, for 40 weeks per annum; producing 13 tons per week each furnace—giving a total annual quantity of 180,000 tons of iron. In all probability Lord Dudley exaggerated the amount of iron obtained for his own private purposes. James granted several patents for iron-working; and, in the Commonwealth, besides many others being granted, Oliver Cromwell was a partner in a company established for working iron in the Dean Forest. Lord Dudley made good pig-iron from pit coal, in 1620; and that was the first instance on record in which coal was employed in the manufacture of iron; and it was probable that, up to that period, wood was the only material used. Yet that process was abandoned for 120 years, though Lord Dudley states, in his *Metallum Martis*, that 800 furnaces were at work in his time. In 1720, a period when speculation was rife in England, and the great South Sea Scheme filled the minds of all men, only 59 blast furnaces existed (10 being then at work in Sussex), making about 294 tons of pig-iron each. At the same time, 100 forges manufacturing 12,060 tons of bar-iron, were at work. Since that period, the number of furnaces had gradually increased. In 1796, there were 121 furnaces in Great Britain; and in 1840, 402, of which 162 were blasting with hot air. The increase in the quantity of pig-iron manufactured would be seen by the following return:—In 1740, 17,350 tons; in 1788, 65,800; in 1796, 124,879; in 1823, 442,065; in 1825, 581,367; in 1828, 702,584; in 1830, 653,417; in 1840, 1,096,000. There had not been any satis-

factory return since that period. Mr. M'Culloch, however, assisted by most of the large masters, estimated, in 1845, the produce of the furnaces of Great Britain to be 1,750,000. Mr. M'Culloch also remarked:—"Supposing about 3½ tons of coal are required for the production of each ton of iron, the consumption of coal in this branch of the iron trade will amount to 6,125,000 tons a year; and, adding to this quantity 3,000,000, required for the conversion of pig-iron into bar-iron, it follows that a supply of no fewer than 9,125,000 tons will be annually required in this single department."

The talented lecturer next called attention to the order in which the iron ores occurred. The peroxides of iron were generally found occurring in rocks much as he had described copper and tin to occur, in lodes disseminated through the various beds, or in large masses. The ore was obtained by driving adits, or galleries, into the lower part of the hill, or by sinking shafts into the masses of ore. When her Majesty and Prince Albert visited the Restormel Mine, in Cornwall, they entered it by the adit at the bottom of the hill; and, though they were 100 fms. below the surface of the earth, they were drawn in upon the the level in a tram-carriage, suitably prepared, by the miners employed in working the iron ore. The hæmatite iron ore obtained in this mine, though very rich, and containing 94 per cent. of the pure oxide of iron, was not of itself a good ore for smelting. It required an admixture of carbonate of lime to make it produce good iron.

The remarkable crystalline variety on the table was found at Elba, in fissures, or in large hollows in the rocks. In India, iron was found in a soft and clayey soil; and the sulphurets of iron were, in England, diffused in a similar way through beds of clay. One of the most curious formations was that of the argillaceous ironstone, and, at the same time, one of the most important. It was found in the carboniferous series, in connection with the coal which served as the fuel by which the metallic iron was produced from it. A diagram was here exhibited, representing an actual section of the carboniferous formation, in which shale, coal, and ironstone, alternated to a considerable depth; or, where there were no ironstone bands, of clay containing nodules of iron. The manner in which these ironstone and clay-nodule deposits had been made was, he thought, remarkably clear.

The talented lecturer illustrated the following theory by a diagram, which, though fanciful, only described conditions, which, from his own personal observation, he knew existed at that moment in more instances than one. Supposing, then, that they had a piece of stagnant water, in which flags and ferns were growing, and which was impregnated (as almost every kind of water was, in a greater or less degree) with iron, existing, as in all probability it would, as a sulphate; or, indeed, any soluble salt of that metal. By exposure to the atmosphere, the surface would gradually become covered by a coating of the red oxide of iron, as every person must have observed who had noticed the waters flowing from any chalybeate springs. This peroxide of iron would fall, from its weight, to the bottom, and here become mixed with the dead and decaying vegetable matter. A simple and easy experiment would show the result of such a mixture. Taking any of the peroxides, even those which are the most persistent, as rouge, which is made by the action of heat—and mixing them with leaves and water, and allowing the mixture to remain together at a common temperature—it would be found, even after a few days, that much of the iron had lost one dose of its oxygen, and eventually the whole would be converted into a protoxide of iron. This change is effected by the carbon of the leaves uniting with the oxygen of the iron to form carbonic acid, which acid readily combines with the protoxide of iron to form the carbonate of iron, or clay iron ore. The iron ore of the peat bogs, was, however, in the state of peroxide, which evidently arises from the remarkable manner in which the vegetable matter was preserved in the formations. This carbonate of iron being formed, would naturally arrange itself beneath the vegetable masses which annually passed into decay; and supposing some such changes to take place, as those described by Mr. Lyell, as witnessed by him on the banks of the Mississippi, where an overflow of the river, which takes place every two or three years, covers up such masses with sand and other matters, the debris which the waters bring from the hills. Upon this soil new vegetation goes on, and another submersion eventually produces similar results—thus forming a series of strata, bearing an exact resemblance to our coal formations, with their alternations of coal; clay containing iron stones, and sandstone, we should have exactly the required conditions, by which this carbonate of iron would be preserved.

The formations of nodular masses was not quite so evident as the formation of bands. All the clay ironstones will be found to have a nucleus of vegetable matter; and in streams in which the plants are covered with oxide of iron, it will be found there is a constant tendency to a nodular arrangement. It is, however, highly probable that some electrical action materially assists in producing those effects. The lecturer had proved that nodules could be formed by passing weak voltaic currents for some time through clay, or plaster of Paris, in a pasty state; but to this he should refer, when he came to speak of the physical phenomena exhibited in the mineral formations. The curious masses of iron pyrites found in the clay formations in many districts, might be accounted for in a similar way—only admitting the presence of water containing the alkaline sulphates, which, decomposing, as they have been found to do in the great deltas of the African rivers, would furnish the sulphur necessary.

The composition of the most important ores was as follows:—Native iron—iron, 93·4; nickel, 6·6. Pyrites—iron, 45·07; sulphur, 53·63; silica, 1·30. Carbonate of iron—protoxide of iron, 59·9; carbonic acid, 38·7; oxide of manganese, 0·3; lime, 0·9; magnesia, 0·2. Red iron ore—peroxide of iron, 94; silica, 2; lime, 1; and water, 3.

The method of mining for iron was precisely the same as that for coal. A pit was sunk on the bed, which was worked out gradually, by means of galleries, driven in various directions. The ore having been obtained, the first process towards rendering it available for use was to convert it into a protoxide, and this was done by burning. A layer of coal, 12 inches thick, was covered with the ore, upon which another layer of coal was placed; and the whole heap covered with coal dust. The mass was fired; and during the slow combustion which followed, the sulphur, arsenic, carbonic acid, and other substances, were driven of. After this it was smelted in a conical furnace, into which it was put with lime, charcoal, and other materials; and, when melted, run off in the form of pig-iron. These were all very interesting processes; but, to describe them properly, it would be necessary to devote an entire lecture to that purpose. The first process to which pig-iron was subjected, to make it malleable, was that of refining. It was again melted, and kept in a state of fusion for two hours, by which more carbon was taken from it, and then run into moulds. It was still necessary that more carbon, which the iron obstinately retained, should be got rid of, and it was next subjected to what was called *puddling*. The metal was again melted, and, while in the liquid state, well stirred, and the carbon driven off as carbonic oxide. It was then formed into masses of 70 lbs. or 80 lbs. weight, which, with several blows of a heavy hammer, were formed into *blooms*, and then, by means of rollers, into bars. In order to give some idea of the quantity of extraneous substances associated with the metal, he might mention that, in the last process, it lost 10 per cent. of its weight.

The conversion of iron into steel was accomplished by again producing carbonisation. Carbon and iron were stratified with charcoal, by which steel was formed. It has been said that steel was not a carbonate of iron; but that question had, he thought, been settled by the experiments of Mr. Pepys with the great galvanic battery of Mr. Children. That gentleman took a piece of soft iron wire, into which a groove had been cut and filled with diamond dust, that being pure carbon. The whole was enveloped by the folds of a smaller wire, and subjected to the intense heat of this large voltaic battery. Though not so powerful a one as Mr. Groves's platina battery, on removing the wire, it was found that the whole of the diamond dust had disappeared, and that the wire was converted to what was called *blistered steel*. It was cooled by being put into water, and the wire was rendered so hard, that it would scratch steel ware and glass. That was a sufficient proof that there was a combination of carbon in steel.

Notwithstanding the great advances made in modern times with regard to chemical science, there was yet, in these processes, a great and lamentable waste of materials which might be rendered available for other purposes. This was proved by a very elaborate examination of the products of combustion, which had lately been made by Dr. Playfair and Prof. Bunsen. They had shown that, during the process, in addition to ammonia and cyanogen, there was daily formed in one furnace at Alfreton, from the combustion of 31,200 lbs. of coal, no less than 224·7 lbs. of cyanide of potassium; from that 2 cwts. of sal-ammoniac might be obtained. In 24 minutes 21,933 cubic inches of gas were collected from a hole over the front of the furnace, 2 ft. 9 in. above tuyere, composed of—Nitrogen, 58·05; carbonic oxide, 37·43; hydrogen, 3·18; cyanogen, 1·34. The Welsh furnaces required for charging two runs of metal, 57 tons of coals, 12 tons of limestone, 36 tons of cemented ore, or mine, by which only 12 *tons of iron were procured*. Surely some less wasteful system than this might be devised.

Iron was one of the most valuable metals we possessed; we were daily putting it to all sorts of uses, not merely of an ordinary domestic character, but in railways, in the manufacture of bridges, and particularly of those remarkable tunnel bridges, across the Conway (which was nearly finished), and across the Menai Straits, and in similar constructions, designed to last for centuries. In such works strength and durability were everything—on those qualities the safety of lives and property depended; yet up to the present moment, we were totally unacquainted with some of the most important physical qualities of iron. If a bar of good iron were broken, the fracture would be found to be fibrous, and the metal tough; but if it were previously subjected to a little vibration, it would instead assume a peculiar crystalline structure, and become very brittle. The process of cold swageing the surface, which was done by beating it with small hammers, would produce this crystallization, though it was possible to restore it to the fibrous state by annealing and slow cooling Many accidents, which had taken place, had, doubtless, arisen from this change, the causes of which we were entirely unacquainted with. Again, if a long bar of iron were taken, and placed with a copper helix, and a galvanic stream passed along it, a musical note would be produced, showing that every fibre of the mass of iron had been disturbed, and, under the influence of a series of those shocks the fibres became crystallised. These were subjects well worthy of investigation; and, indeed, too much attention could not be given to these remarkable changes.

Again, to show how little we were acquainted with the properties of iron, if a piece of iron wire were plunged into a strong solution of nitric acid, an oxide was produced; but if merely one end of the wire were subjected to the action of heat, the whole length would be changed to what had been called by Schönbein the inactive state, and would be then as difficult to oxidise as platina itself. If a second piece were laid under the one rendered inactive, it would become inactive also; and any number of pieces thus brought into contact with the first, would be protected from the action of that powerful chemical agent—nitric acid; but the law by which this was effected, and the further consequences, were unknown.

Considerable attention had been lately paid to the process of galvanising iron—a discovery which promises to be of the highest utility. Mr. Nadsmyth, of Patricroft, near Manchester, and Mr. Owen, two gentlemen connected with the Government committee on the subject of metals, had lately been trying experiments, the result of which would indicate that, by giving iron a coating of zinc, or by combining zinc with iron in its manufacture, it would be much improved, preserved from oxidising, and rendered less brittle; and that old plates of iron—such, for instance, as had been used for the bottoms of ships—with an admixture of zinc, still possessed its original qualities; and, in fact, iron remelted from such plates, was found to be of a better quality than at first. These experiments had, indeed, excited great attention to the important question, whether iron would not be improved by a small portion of zinc. Tinned iron, exposed to the atmosphere, very soon became oxidised; but in iron protected by zinc, although exposed to all weathers, there was no change. Indeed, a piece made bright, remained so after being placed in water for several months. The zinced iron, which was now used in roofing large buildings—as, for instance, the new Houses of Parliament—had the quality of becoming encrusted with a coat of oxide of zinc, which prevented any further destructive effects from exposure to the atmosphere.

The extent to which the electric telegraph had already been adopted, to say nothing of what it would be in a few years, had been greatly facilitated by the use of galvanised iron wire, because it reduced the expense to fully one-third less than copper wire. The only question was, whether the resistance of the iron wire to the passage of the electric fluid would not be so great as to impair the usefulness of the telegraph? It had, however, been proved that, although the electric current did not pass quite so rapidly, the difference was inappreciably small. The galvanised iron also possessed an advantage over copper in not being so liable to corrosion, and, consequently, more durable.—(Cheers).—[The next lecture, upon "Lead," will be fully reported in the next Number of the *Mining Journal*.]

PROFESSOR ANSTED'S LECTURES ON MINING.

SIR,—Whether Professor Ansted be a talented man or not, Mr. Deakin is a practical one—the truth of which is evidenced by almost every thing he writes on mining subjects. His correction of Professor Ansted's assigned mode of South Wales coal getting (in the *Mining Journal* of the 8th inst.), is lucid and correct.

Traces of this method of getting top coal and ironstone, as well as of metallic ores in general, may be seen in most mineral districts of the country. This mode of operating is still practised, or was till within a very few years in Yorkshire, by the Low Moor, Bierley, and Bowling Iron Companies, for getting ironstone, which is found in loose surface strata, about 20 to 45 feet in depth, and is called bell-flasking, and whereby the shallow coal and ironstone can be cleaner got than by any other method. Its practice is derived from an observance of the ancient methods of getting crop coal and ironstone, as opposed to the other method, called open flask work, in which the entire surface was turned over, to the depth of 5 to 20 feet, picking out the ironstone and coal, and throwing the debris behind. The method of bell-flasking, or sinking a bell-pit, consists in sinking a pit, or shaft, 6 to 8 feet diameter, for a few feet in depth, or until the first layer of ironstone is arrived at. Then, instead of continuing the shaft at the original width, the sinkers begin to widen out, at the rate of about 30° from axis of pit; until, having attained the depth of the lowest object of search, a conical cavity is formed, whose truncated apex is 6 feet, and base from 40 to 80 feet. The miner then forms a series of adits at the base of the bell-pit, a few feet into the solid strata, leaving a pillar on each hand; and, roof-ripping these adits, he gets all the mineral he can lay hands on, leaving the rubbish. He then begins cutting out the pillars, and he accounts himself very successful if he can acquire all the minerals in the pillars, ere he is warned to avoid being buried alive by a timely exit. Such is the method, and such the dangers, of bell-flasking.

Professor Ansted's lectures, to a practical man, savour little of practice; and I must be permitted to say, that his notions of the circumstantiality of coal getting are very defective, and frequently erroneous. For instance, on the subject of the disasters, and their sources, resulting from explosions of fire-damp, perhaps, the fact of my having been in the vortex of an explosion, and been burnt, may procure for me the right to be heard with attention as the professor's critic.

The sources of damage and loss of life in these cases are three-fold:—1st, the ignition of fire-damp, singing and charring whatever happens to be enveloped within the truly magnificent, yet awful, volume of its lambent many-coloured flames, rolling like fiery woolpacks along the roofs of the levels and air-gates, and dipping into the goafs, or gobbs, located near the entrances of the actual workings, emitting a sound of an indescribable character. A sudden expansion of the foul atmosphere having taken place soon after the first ignition, all loose sheets are blown away from apertures where air-currents were intended to be deflected. By-and-bye, and when the body of flame has passed on into the more distant workings, furthest from the pit-shaft, the previously expanded atmosphere returns with violence to fill the double void produced by simple thermic expansion and actual diminished volume, the result of a combination of atmospheric oxygen with fire-damp, producing, by giving more fuel to the flame, what the colliers call a "return of the fire," from the distant workings, and exploding and igniting more and more of the stagnant, yet foul, atmosphere. When the flame is extinguished, the rush of distant air into the void, like a "rushing mighty wind," overturns every thing in its way—blowing down stoppings made with bricks set in mortar, double walls, filled in with miners' debris, and, as in my own case, waggons, empty and full, driven helter-skelter over one another in the waggon roads; and, as is too often the case, the burnt and otherwise injured bodies of miners, and their waggoners, commingled with these vacuum-driven objects.

Now, the professor opines, that those whom the ignition has spared life to, are suffocated subsequently by the carbonic acid gas resulting from the explosion. Such is not the fact. And here I would ask the professor and the collier, what is the cause of the red, green, and blue flames interspersed in the general yellow flame of the carburet of hydrogen under ignition in a coal working? And whence the constriction of the lung (not of the glottis), by breathing the results of the explosion, identical with that resulting from the inspiration of the fumes of a common sulphur match?

I myself have been so burnt by the ignition, and bruised by rolling over, and being rolled over by, an empty coal waggon, and then all but suffocated by breathing an atmosphere containing the results of the combustion of hydro-sulphuric acid gas, which makes ones eyes and nostrils smart, and constringes the chest.

The action of the flame on the skin of the face is very peculiar—not at all painful, but feeling as though it became *tighter*, and too little for the body, or part it covers.

The collier, then, is not choked by carbonic acid, but by a sulphureous exhalation, which the colliers call "choke-damp," and "sulphur." W. RADLEY, Ch. E.

THE TALACRE COAL COMPANY—ALD. T. WOOD.

COURT OF BANKRUPTCY—JAN. 20.

This day was appointed for the last examination of Mr. Alderman Thomas Wood, described as of Corbet-court, Gracechurch-street, in the city of London, attorney-at-law, dealer and chapman.

Mr. D. WIRE appeared on the part of the assignees, who expressed themselves perfectly satisfied with the accounts, which contained a detail of the transactions of the bankrupt with the Talacre Coal Company, and showed a balance deficient on 31st December, 1845, of 1956*l.* 7s. 3d. *Appendix Account of Losses on the Talacre Company.*

Debts and liabilities *bonâ fide* paid by Ald. Thomas Wood, from the commencement of the company up to his bankruptcy	£4823 13 8
Claims arising thereunder and charges incurred, at present in liquidation	587 0 0
Ald. Wood's professional bill against the company, 1128*l.* 7s.—less the sum of 200*l.*, received for stamping the deed of settlement, which was the only money that ever came to his hands from the company, or through any other source on his behalf	928 7 0
Total loss	£6339 0 8

The accounts, which were prepared by Messrs. Bankes and Son, of Fish-street-hill, showed the total amount of debts as 12,701*l.* 2s. 4d.: the expenses incurred in the contest for the office of Lord Mayor, were 143*l.* 3s.

The bankrupt passed his examination without the slightest opposition, and a day was fixed for the certificate meeting.

THE BIRMINGHAM OF AMERICA.—The American correspondent of the *Birmingham Journal* says—"As your readers have all heard of the manufacturing town of Pittsburgh, 'the Birmingham of America,' the following statistics which I have obtained may not be without a passing interest, if merely to enable them to form an idea of their trans-Atlantic rival. This town, with its dependencies of Alleghany, Manchester, Birmingham, &c., contains a population of about 60,000; you will recollect that a great portion of the town was burned down last spring, including many of the principal manufactories. It is situated 300 miles west from Philadelphia. There are at present 11 rolling mills in and about the town, of which about eight are capable of producing 4000 tons each of iron annually, and employ nearly 150 hands to each mill; this iron is of superior quality, and is used for boilers, axles, wire, sheets, and the like; the pig metal is supplied chiefly from charcoal furnaces along the river. About 75,000 tons of pig metal are consumed yearly by the mills and foundries. The manufacture of glass is carried on here to a great extent, the chief incentive being the cheapness of the fuel. There are seven flint glass factories, six for window glass, five for green, and one for black glass. They employ 25 or 30 men each, and more than a million of dollars are invested in these works; there are also 14 others on the Monongahela River, making an inferior quality, denominated "county glass." Pittsburgh has also three steel factories, flouring mills, steam saw mills, rope walks, and one large oil floor cloth manufactory, besides plough, carriage, and waggon factories. One large establishment, known as the 'Novelty Works,' deserves particular mention. Its principal business is the manufacture of platform scales, counter balances, patent coffee mills, and the like; 147 men are employed in it, and the proprietors are now enlarging its dimensions. The cut-nail trade is also carried on extensively—one factory has a capacity of 2000 kegs a week, and there are others nearly as large. The annual export trade of Pittsburgh is equal to $ 17,000,000. In addition to the above, there are in the town seven cotton factories, employing upwards of 1300 hands, and 25 foundries in successful operation, in the manufacture of cotton presses, cannon sugar mills, ploughs, &c. In the business season there are 25 steam-boats arriving and departing daily.

AMMONITES.—The moulds or shells of the ammonite are very rarely to be met with in the carboniferous limestone, this fossil being peculiar to the oölitic formation; it is, however, sometimes found in the limestone of the Peak of Derbyshire, and of a most extraordinary size. We understand that a particular description of a few specimens will be given in the forthcoming second edition of *Wood's History and Antiquities of Evam.—Sheffield Iris.*

DREDGING MACHINES FOR ALEXANDRIA.—We are glad to learn that Messrs. W. Simpson and Co. have just executed an order from the Pacha of Egypt, for the machinery of two dredging machines, to be used at Alexandria, and that the *Arab* has gone into berth to ship the whole for that port. The machinery is of a first-rate character, and will do credit in every respect to Aberdeen.—*Aberdeen Herald.*

CALEDONIAN RAILWAY—LOANS ON DEBENTURES.

The CALEDONIAN RAILWAY COMPANY are prepared to RECEIVE TENDERS OF LOANS ON DEBENTURES, in sums of not less than £500, for three or five years—bearing interest at the rate of 5 per cent. per annum, payable half-yearly, in Edinburgh, Glasgow, London, Liverpool, Manchester, or Bristol.

Tenders to be addressed to this office. Parties may also communicate personally with Messrs. Foster and Braithwaite, 68, Old Broad-street, London.

By order of the directors, D. RANKINE, Treasurer.

Caledonian Railway Office, 122, Princes-street, Edinburgh, March 26, 1847.

CAMERON'S COALBROOK STEAM COAL AND SWANSEA AND LOUGHOR RAILWAY COMPANY.

Registered and Incorporated by 9 and 10 Victoria, cap. 401.

An EXTRAORDINARY GENERAL MEETING of the proprietors of this company will be HELD at their offices, 2, Moorgate-street, London, on Monday, the 31st day of Jan. inst., at Twelve for One o'clock precisely, to declare a dividend for the half-year ending on the 31st December last.

The same meeting will thereafter be made special, to receive the report of the directors with reference to the company's railway, pursuant to the provisions of the Acts of Parliament relative thereto.

The transfer books will be closed from the 20th until the 31st inst. inclusive, preparatory to the above-named dividend. By order of the board of directors,

2, Moorgate-street, London, Jan. 15, 1848. A. C. HOWDEN, Secretary.

SWANSEA DOCK COMPANY.—Notice is hereby given, that the SECOND ORDINARY MEETING of the shareholders of this company will be HELD on Monday, the 31st day of January inst., at Ten o'clock forenoon, at the Castle Hotel, Swansea, for the purpose of transacting the general business of the company, and of making the necessary arrangements for adjusting all existing differences in and connected with the company and its affairs. By order of the board of directors,

A. C. HOWDEN, Secretary.

Company's Offices, 3, Lothbury, London, Jan. 15, 1848.

TO RAILWAY ENGINEERS, CONTRACTORS, AND OTHERS.—The ADVERTISER having obtained her Majesty's Letters Patent for an IRON TRUSS BRIDGE, peculiarly adapted, from its great strength and economy, for RAILROADS, is ready to TREAT with such companies, and other persons, as may feel disposed to adopt it. This bridge has been put up in Washington, and two of them (one of 70 feet span, weighing 13 tons) have been erected on the line of the New York and Harlem Railway; they are highly approved of by the directors, and several other companies have, in consequence, expressed their intention of adopting it.

A model can be seen, and further particulars given, either personally or by letter, on application to Mr. S. Moulton, care of the Editor of the *Mining Journal*, 26, Fleet-street.

RAILWAY ACCIDENTS.—The PRACTICABILITY of our "MEANS OF COMMUNICATION BETWEEN THE GUARDS (or passengers) and ENGINE-DRIVER," as well as our ELECTRIC TELEGRAPH, and arrangements, may be seen by applying to BRETT & LITTLE, Furnival's Inn, London.

IMPORTANT TO RAILWAY AND STEAM NAVIGATION COMPANIES, MANUFACTURERS, AND ENGINEERS.

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PATENT LUBRICATING FLUID (or Animal Oil) FOR ALL DESCRIPTIONS OF MACHINERY.

W. B. & CO. have the pleasure to state, that the above article is extensively used in her Majesty's Steam Navy, and by several of the principal Steam Navigation and Railway Companies, and is pronounced by them, and by the first practical engineers of the day, to be far better adapted for the purposes of lubrication than any other article hitherto used for such purposes. The Patent Lubricating Fluid is equally applicable for the most intricate and fine pieces of machinery, as for the heaviest bearings of the steam-engine. It is cheaper, much more economical, and cleaner than oils at present in use; is free from smell, and calculated to effect a vast saving in the expenditure of working steam powers.

Further particulars can be had, and testimonials seen, by application to the manufacturers, W. BROTHERTON & CO., Hungerford Wharf, Strand, London.

N.B.—The above article will burn in lamps, and give a light equal to the best sperm oil.

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4, Wharf, Macclesfield-street South, City-road Basin, London.

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Assurances for terms of years are granted on the lowest possible rates.

DIVISION OF PROFITS.

The remarkable success and increasing prosperity of the society has enabled the directors, at the last annual investigation, to declare a fourth bonus, varying from 35 to 85 per cent. on the premiums paid on each policy effected on the profit scale.

EXAMPLES.

Age	Sum.	Prem.	Year.	Bonus added.	Bonus in Cash.	Permanent reduction of Premium.	Assured may Borrow.
60	£1000	£0 3 4	1837	£217 15 1	£109 0 11	£16 0 4	£445 0 0
			1838	192 3 0	87 1 4	13 10 2	395 11 1
			1839	165 11 10	74 1 9	11 3 1	346 2 3
			1840	116 7 6	54 0 10	7 18 10	296 13 4
			1841	111 6 8	49 10 0	7 10 4	247 4 5

The division of profits is annual, and the next will be made in December of the present year. F. FERGUSON CAMBOUX, Secretary.

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*** It will at all times save much delay and inconvenience, if communications are directed simply To THE EDITOR, *Mining Journal Office*, 26, FLEET-STREET, LONDON.

And POST-OFFICE ORDERS, &c., must be made payable to WILLIAM SALMON MANSELL as acting for the proprietors.